

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1341.—Vol. XXXI.

LONDON, SATURDAY, MAY 4, 1861.

(STAMPED.....SIXPENCE.
(UNSTAMPED.....FIVEPENCE.

MR. JAMES CROFTS, SHAREBROKER,
No. 1, FINCH LANE, CORNHILL. (Established 17 years.)

MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.
JAMES LANE has FOR SALE, at net prices:—20 Alfred Consols, £2½; 25 Arthur, 7s. 6d.; 20 Beneathwood, 8s. 6d.; 10 Buller and Bassett, 11s.; 10 Crowlwin, 9s. 6d.; 20 East Devon, 32s. 6d.; 10 Gonnams, £2½; 20 Gonnams Lake (Clitters), 55s.; 20 Great Meolwyn, 15s. 6d.; 20 Great Wheal Martha, 16s. 6d.; 20 Molland, 1s. 9d.; 25 Great Alfred, 10s. 6d.; 20 New Treleigh, 47s.; 50 North Miners, 32s. 6d.; 5 North Phoenix, £5; 1 Providence, £42; 20 Rednor, 4s.; 50 Sordridge, 10s.; 20 Trumpet United, 14s.; 20 West Wendron, 8s. 6d.; 5 Wheal Hennie, £9; 5 Wheal Anne, £3½; and 3 West Rose Down, £13.

PETER WATSON, ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES,
79, OLD BROAD STREET, LONDON, E.C.
Telegraphic messages to Buy or Sell Mine Shares punctually attended to.

MR. PETER WATSON is instructed to PURCHASE and SELL the UNDERMENTIONED MINE SHARES, subject to a charge of 2 per cent., for immediate delivery and cash payment:—

No. of shares.	PURCHASER.	Price.	No. of shares.	SELLER.	Price.
15	Alfred Consols	2 0 0	2	Alfred Consols	2 10 0
1	East Basset	98 0 0	2	East Basset	99 15 0
1	Devon Great Consols	—	100	Kelly Bray	1 2 9
10	Ding Dong	9 0 0	10	Par Consols	9 10 0
15	East Caradon	19 2 6	2	Providence	42 10 0
1	Trelawny	13 0 0	10	Ludcott	3 17 6
5	Mary Ann	13 10 0	20	Tamar	2 1 3
20	Ludcott	2 15 0	10	Tinroft	5 15 0
8	Providence Consols	39 10 0	10	Grylle	2 0 0
13	Wheal Margaret	52 0 0	3	Rosewarne	2 0 0
4	Herodfoot	37 0 0	1	South Frances	137 0 0
1	Carn Brea	87 10 0	1	Gambler	19 0 0
6	North Basset	3 10 0	20	Edward	2 5 0
1	West Seton	—	1	West Caradon	70 0 0
1	Wheal Seton	70 0 0	1	North Roskear	19 2 6
50	Kelly Bray	1 1 6	1	United Mines	45 0 0
			2	Ding Dong	10 10 0

No. of shares.	PURCHASER.	Price.	No. of shares.	SELLER.	Price.
25	East Grenville	2 12 6	100	East Grenville	2 15 0
75	East Russell	6 5 0	20	East Russell	6 12 6
200	Budnick Consols	1 2 6	96	Budnick Consols	1 6 0
60	Wheal Unity	0 12 0	1	North Trekerby	23 0 0
5	Cargill	16 0 0	50	Wheal Unity	0 14 6
2	Great Alfred	0 14 0	3	Stray Park	36 1 3
4	West Frances	17 10 0	28	North Down	4 0 0
20	South Condurrow	0 13 0	75	Gurlynn	0 5 1½
40	Crebor	0 10 0	5	Gardina	1 17 6
30	Sordridge Consols	0 10 0	5	West Stray Park	5 10 0
10	Grenville	2 15 0	5	Camborne Vein	2 7 6
1	West Sharp Tor	33 15 0	100	Lady Bertha	1 12 6
50	New Frances	0 10 0	10	Trencor	3 1 3
20	North Miners	1 9 0	50	Pod-an-drea	—
20	Rosewall Hill	1 15 0	4	Herward	21 0 0
50	Lady Bertha	1 18 0	30	North Miners	1 12 0
10	Gardina	5 10 0	20	Treweatha	0 9 0
100	Wheal Arthur	0 5 6	150	Arthur	0 6 0
			10	Nantes	2 10 0
			20	Great Badden	0 12 9

Bankers: Union Bank of London.

NOTICE.—FOR SALE, some SHARES in a FEW CHOICE MINES, highly recommended. Particulars to be had (either personally or by letter) of Mr. LELAND, 4, CUSHION-COURT, OLD BROAD-STREET, LONDON, E.C.

FOR SALE.—50 West Providence, 30s.; 100 West South Caradon, 15s.; 20 Dolcoath United, £1½.—Apply to Mr. LELAND, 4, CUSHION-COURT, OLD BROAD-STREET, E.C.

MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C., has BUSINESS to TRANSACT in the following SHARES:—
50 Calstock, 10s. 100 Gawton United, 5s. 3d. 3 Stray Park, £36½.
20 Creake, £3½. 70 Great Retallack, £1½. 30 S. Car. Wh. Hooper, £2½.
2 Bryn Gwlog, £36. 30 Lady Bertha, 26s. 9d. 20 Tincroft, £5 16s. 3d.
20 Drake Walls, 13s. 100 Merilyn, 8s. 3d. 15 Wheal Arthur, 6s. 3d.
1 Devon Gt. Con., £32½. 100 North Robert, 15s. 100 Wheal Edward, £1½.
20 East Caradon, £19½. 20 North Down, 4s. 6d. 20 Wheal Crosby, 9s. 6d.
100 East Russell, £24½. 50 North Trevelyan, 5s. 6d. 20 Wheal Moyle, £2.
180 East Grenville, £2½. 10 Nor. Trekerby, £23½. 50 Wheal Norris, 21s. 6d.
50 E. Gonnams Lake, 8s. 9d. 20 Pely Wood, 9d. 20 Wheal Unity, 13s.
50 East Devon Con., £1½. 20 Sordridge, 9s. 9d. 10 Wh. Grenville, 56s. 3d.
Mr. T. ROSEWARNE has SPECIAL BUSINESS in—
Bedford Consols. East Caradon. North Robert.
Birch Tor and Vithier. East Grenville. Wheal Arthur.

May 3, 1861. Bankers: Bank of London.

MR. JAMES HUME, SHAREBROKER, 74, OLD BROAD STREET, LONDON.
The "Mining Share Monitor" for April now ready. The most reliable and valuable information on East Caradon, East Carn Brea, Cuddra, and the leading mines of the day. Free for six postage stamps.

MR. E. GOMPERS, MINING OFFICES,
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.
BUSINESS TRANSACTIONS IN BRITISH AND FOREIGN STOCKS AND SHARES.
Mr. GOMPERS, having returned from Cornwall and Devon, can now advise his friends and the public, so far as his own judgment and the opinions of several of the leading men in the counties enable him, as to the best investment at present prices. His shows signs of recovering from the recent depression, and he therefore recommends the following for immediate purchase:—Providence, Tincroft, Carn Brea, and Wheal Margaret; dividends are being paid on these shares. Amongst the progressive mines, shares in Hingston Down, North Robert, Sordridge, Kelly Bray, and Calstock Consols ought to be bought. This Cornish district has attracted considerable attention, and yielded a good profit to those who took my advice in purchasing East Caradon when at a low figure. Wheal Norris, a young mine in the same district, will shortly come into notice.
Mr. GOMPERS is a BUYER of 5 Providence, at £40; 20 Hingston Down, at £2½; 100 Wheal Norris, at £20; 2 Wheal Margaret, at £50; 50 Kelly Bray, at £50; 100 North Wales, at £50; 20 100 Fowey and Ex, at 10s.; 50 Gawton: 100 Calstock Consols. And is a SELLER of 20 Lady Bertha, at £1½; 1 Clifford, at £18s; 50 East Grenville, at £3; 1 Devon Great Consols, at £340.
Terms, 1½ per cent.—Bankers: London and Westminster Bank.

MR. GEORGE BUDGE, 4, ROYAL EXCHANGE-BUILDINGS, LONDON, has FOR SALE at the following prices, net:—2 East Basset, £39½; 3 West Sharp Tor, 30s. 50 North-y-lago, 31s. 9d.; 5 South Bryn Gwlog; 50 Wheal Trevelyan, 8s. 6d.; 2 South Wheal Frances, £18½; 50 Great Retallack, 27s. 3d.; 3 West Caradon, £70; 5 North Trekerby, £24; 50 East Grenville; 25 Creake, £23 5s.; 100 Tamar Consols, 38s. 9d.; 50 Treweatha, 10s.; 50 West Wendron, 11s. 3d.; 30 Cefn Cileon, 7s. 9d.; 10 Tolois; 50 North Miners; 3 Herodfoot, £37½; 5 Billins, £20; 50 South Condurrow, 15s. 3d.; 3 Bryn Gwlog; 50 Wheal Unity, £18½; 25 Buller and Bertha; 10 East Caradon, £19½; 40 Angarrack, 3s.; 5 Silver Rake, £19½; 50 Great Wheal Martha; 7 Caradon Consols, £10; 60 Lady Bertha, 29s.; 25 Crane; 2 West Seton, £350; 100 East Rosewarne; 10 Bedford United, £5½; 50 Charlotte United; 60 Great Wheal Alfred, 15s.; 30 Buller and Basset; 50 Pod-an-drea, £1; 30 Tolois, £2 15s.; 15 West Trevelyan; 35 Wheal Grenville, £2½; 3 Stray Park, £27; 3 West Bryn Gwlog, £36½; 3 Gambler, £18½; 50 Trumpet United, 14s. 6d.; 20 Emily Henrietta, £3½; 50 Wheal Harriet; 50 Wheal Arthur, 6s. 6d.; 3 Providence; 5 Wheal Hennie; 50 New Wheal Frances, 8s. 6d.; 25 Great South Tolois, £2½.

FIFTEEN TO TWENTY, and even TWENTY-FIVE PER CENT. PER ANNUM upon current value of shares, in CORNISH TIN AND COPPER MINES.
Dividends payable two-monthly or quarterly.

MESSRS. TREDINNICK AND CO., MINING ENGINEERS,
SEND their SELECTED LIST OF SOUND PROGRESSIVE AND DIVIDEND SHARES upon the receipt of a Fee of One Guinea.
Review of Cornish and Devon Mining Enterprises, 6s. per copy.
Maps per post of the Buller and Basset, Great Veal, Alfred Consols, the Providence and Margaret Districts, 2s. 6d. each.
Cornish Mines, well selected, pay better than any other description of securities, are free from risks, and entail less responsibilities than banks and other joint-stock companies. Shares bought and sold on commission of 2½ per cent.
Money advanced at 10 per cent. annually, for short or long periods, upon approved Mining Shares, 75, Lombard-street, London, E.C.

G E O R G E M O O R E,
1, CROWN COURT, THREADNEEDLE STREET.
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:—
20 Anglo Mexican Mint, 50 Lady Eliza, 9s.
£13 10s. 5 Marke Valley, £7 2s. 6d.
10 Brynford Hall, £20. 2 Mary Ann, £12 10s.
4 Bryn Gwlog, £37½. 20 Merilyn, 10s.
20 Bottle Hill, 19s. 9d. 20 Marquitta.
20 Bryntall. 10 North Frances, £4½.
5 Billins, £20½. 50 North Miners (20s. pd.)
1 Buller, £11½. 2 North Roskear, £18½.
2 Carn Brea, £58½. 5 North Basset.
5 Cobre, £39½. 1 New Seton, £46½.
20 Charlotte United, 16s. 25 New Frances, 9s. 6d.
20 Creake, £3 6s. 9d. 20 North Exmouth, 14s. 9d.
5 Calvadack. 30 No. Trekerby, £23½.
30 Cefn Cileon, 7s. 9d. 20 No. Down, £4 1s. 3d.
20 Central Miners, 15s. 20 New Treleigh, £2 4s. 6d.
20 Camb. Vein, £2 6s. 9d. 50 North Rhine, 7s.
2 Cargill, £16 18s. 9d. 40 New Crow Hill, 16s. 9d.
1 Dev. Gt. Con., £34½. 10 North Dolcoath, 8s.
40 Dale, 15s. 9d. 20 Nant-y-lago.
2 Ding Dong, £13½. 10 North Robert, 15s.
25 Dolcoath United, 29s. 6d. 5 Old Tolois Utd., £14½.
20 Drake Walls, 16s. 9d. 5 Par Consols, £5 18s. 9d.
5 E. Caradon, £18 12s. 6d. 1 Providence, £43 18s. 9d.
5 East Russell, £5 11s. 9d. 1 Pentre Lygan, £20.
10 E. Carn Brea, £5 2s. 6d. 20 Redmoor, 3s. 6d.
15 East Budnick, 8s. 6d. 2 Stray Park, £36½.
1 East Basset, £100. 2 Rosewarne United.
1 East Margaret, £3½. 20 Rosewall Hill & Ransom, £1 17s. 6d.
40 East Grenville, 51s. 6d. 5 Saint John del Rey, £31 18s. 9d.
20 East Rosewarne, 29s. 3d. 25 Silver Bank (10s. pd.), 7s. 6d.
100 East Kongsberg, 15s. 6d. 20 South Garris.
2 Gambler, £19½. 15 So. Carn Brea, £3 6s. 3d.
30 Great Alfred, 14s. 9d. 10 Wheal Seton, £73½.
5 Gonnams, £2 10s. 3 Stray Park, £36½.
20 Great Retallack, 26s. 9d. 1 South Caradon, £304.
60 Gt. Wh. Martha, 17s. 9d. 2 St. Ives Consols.
25 Gernick, 4s. 9d. 10 South Herodfoot.
5 Gt. S. Tolois, £4 16s. 9d. 5 Silver Rake, £19½.
30 Gurlynn, 9s. 9d. 75 Sordridge Cons., 10s.
1 Herward, £21½. 4 S. Bryn Gwlog, £17½.
10 Hings. Down, £2 7s. 6d. 20 S. Condurrow, 13s. 9d.
1 Kitty (Leland), £11½. 1 South Basset, £14½.
20 Lady Bertha, 30s. 9d. 20 South Caradon Hooper, 13s. 6d.
20 Kelly Bray. And is a BUYER of 5 Billins, £20; 100 North Miners, 33s.; 10 Old Tolois United, £13½; 5 Silver Rake, £19; 10 Wheal Damsel, £20; and 100 Dale, 15s.
2, Adam's-court, Old Broad-street, May 3, 1861.

MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS OF MINES, COMMISSION, AND GENERAL AGENTS for the PURCHASE or SALE of MINE SHARES, RAILWAY, and EVERY OTHER DESCRIPTION OF STOCK.
Commission on share transactions, 1½ per cent. on £100 and above, and 2½ per cent. for less sums.

MR. C. POWELL, MINE SHAREBROKER,
2, SPREAD EAGLE COURT, FINCH LANE, LONDON, E.C.
C. POWELL informs his friends and the public that the situation of his office (adjoining the Mining Exchange) enables him to act promptly on all orders confided to him, either by post or telegraph; and he to assure those who may favour him with business on commission, or at net prices, that his best endeavours shall be used for their interest.
Office hours, 10 till 6. Commission, 1½ per cent.
May 3, 1861. Bankers: City Bank, Finch-lane.

EDWARD COOKE, 5, HERCULES PASSAGE, THREADNEEDLE STREET, LONDON, E.C., begs especially to direct the attention of the mining public to Wheal Moyle. No mine in the list contains better chances of becoming a permanent dividend property than this one. The fullest investigation as to its merits is solicited, and every facility will be afforded to parties wishing to have the mine inspected. A map, showing its relative position to the richest mines that Cornwall has ever produced, sent free on receipt of six postage-stamps.
Edward Cooke is a BUYER or SELLER of Wheal Moyle shares at the market prices. All kinds of shares bought and sold on commission.
FOR SALE, at net prices:—
25 Buller and Basset, 9s. 10 South Frances, £135. 13 Wheal Moyle, £23½.
25 North Miners (paid-up), 33s. 6d. 35 Wheal Arthur, 7s. 10 West Fowey, £5.
25 East Grenville, 60s. 15 Camborne Vein, £2½. 1 Wheal Buller, £110.
30 Wheal Wrey Cons., 12s. 5 North Basset, £5. 15 Rose & Herland, 7s. 6d.
25 Wheal Unity, 16s. 25 Nant-y-lago, £1½. 100 Wheal Trevelyan, 6s.
10 No. Down, £4 1s. 3d. 2 So. Bryn Gwlog, £20. 2 Bryn Gwlog, £33½.
May 3, 1861. Bankers: London and Westminster, Lothbury.

JOHN WM. HUTCHINSON has the following FOR SALE, at net prices, and prompt delivery:—
20 Bottle Hill, 18s. 3d. 5 Kitty (Leland), £12. 5 Trelawny, £14½.
1 Basset, £29. 1 Margaret, £54. 5 Wheal Hennie, £29½.
3 Gambler, £17. 1 Providence, £42½. 10 Wheal Unity, £4½.
75, Old Broad-street, May 3, 1861.

MR. R. H. M. JACKMAN, MINING AND SHAREBROKER,
No. 2, ADAM'S COURT, OLD BROAD STREET, E.C.,
OFFERS FOR SALE, free of any commission:—
1 W. Bryn Gwlog, £36½. 2 North Roskear, £19. 50 Beneathwood, 11s.
1 Herward United, £17. 15 Gt. So. Tolois, £5. 4 Stray Park, £36.
40 W. So. Caradon, 15s. 3d. 30 Cuddra, 32s. 100 So. Condurrow, 14s. 6d.
R. H. M. JACKMAN is a BUYER of:
2 East Basset, £29½. 2 Herodfoot, £37. 10 New Treleigh, £2½.
May 3, 1861. Bankers: London and Westminster.

MR. J. S. PHILLIPS, C.E., MINING ENGINEER,
SHAREBROKER, &c. (from Cornwall), has the following SHARES to SELL at net prices:—
10 Bryntall, £4. 15 Pendean, £5½. 20 Drake Walls, 17s. 6d.
10 Creake, £3½. 40 Yanner, £2. 15 Pod-an-drea, 14s. 6d.
12 Ludcott, £3½. 10 West Providence, 35s.
J. S. PHILLIPS, from extensive mining connections, will advise capitalists of the shares best calculated to advance in market value during the next six months, either for a present fee, or a small share of the profits, arising from the difference of purchase and sale thereof. Buy immediately, and secure the general rise.
Reports on the mines of each district, from the best local authorities.
Valuations, estimates, specifications, and drawings for mining and other machinery executed.—12, St. Michael's-alley, Cornhill, London, E.C.

MR. JOSEPH GREGORY, MINING OFFICES,
1, BANK CHAMBERS, LOTHBURY, E.C.
BUSINESS TRANSACTIONS IN BRITISH AND FOREIGN STOCKS AND SHARES.
Terms, 1½ per cent. on £100 and above, 2½ per cent. on smaller sums.
Bankers: City Bank, Threadneedle-street.

MESSRS. R. HORLEY AND CO., SWORN STOCK, SHARE, AND MINING BROKERS, 45, CORNHILL, E.C. (late of 2, Royal Exchange-buildings), continue to TRANSACT EVERY DESCRIPTION OF MINING BUSINESS, and are in a position to obtain reliable information respecting all dividend and progressive mines.
N.B.—Messrs. HORLEY and Co. publish a Weekly Mining List, with the closing prices, every Wednesday, and will be most happy to forward the same (gratis) on application.

MR. GEORGE BATTERS, 5, COWPER'S COURT, BIRCHIN LANE, DEALER IN BRITISH MINING SHARES AND OTHER STOCKS.
Mr. BATTERS, from long experience and intimate acquaintance with all Mining Stocks, can advise as to investment of capital, at the closest market prices, and has made a selection from the mines of North Wales likely to be largely profitable in respect of dividends, and with great prospects of advance in market value. Full particulars from personal inspection can be had on application.
Mr. BATTERS for some time past has been studying the North Wales lead mining district, and periodically inspects its most important mines, and is at all times in correspondence with the most intelligent agents in the counties of Flint and Denbigh, and will be happy to advise with his correspondents as to investments in these important districts.
Mr. BATTERS is a BUYER or SELLER in most of the leading mines in Cornwall and in the Principality, and has FOR SALE 100 East Grenville, 5 Bryn Gwlog, 10 East Caradon, 3 West Bryn Gwlog, 2 Billins, 50 North Miners, 1 Silver Rake, and 20 Great Wheal Martha, at market prices, free of commission, and confidently recommends the selection as likely to prove very profitable.

MR. T. E. W. THOMAS, MINING AGENT AND GENERAL MINING SHAREDEALER, 16, HACKINS HEY, LIVERPOOL.
The following shares have been placed in the hands of Mr. THOMAS FOR SALE; and such stock not having a daily market quotation, Mr. THOMAS would be glad to treat with anyone wishing to purchase any part thereof:—25 Silver Valley, 2 St. Anbryn and Grylls, 50 Wheal Rose, 11 West Alfred Consols, 150 North Down and Wheal Rose, 4 Trebarvah, 10 East Margaret, 12 East Trefusis, 1 Deep Level (Lead, Halkin), 5 Wh. Trefusis.

JOHN R. PIKE, GENERAL SHAREDEALER,
3, PINNERS COURT, OLD BROAD STREET, LONDON, E.C.

FREDERICK WILLIAM MANSELL, MINING OFFICES,
1, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.
Bankers: London Joint-Stock Bank.

RICHARD CLIFT, MINE SHAREDEALER,
late of Redruth, now 45, THREADNEEDLE-STREET, LONDON, where all letters are to be addressed.

MR. THOMAS SPARGO, SHAREBROKER,
224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
Commission, 2½ per cent.

MR. J. O. HARRIS (nearly nine years with Mr. C. Wescomb), ACCOUNTANT AND STOCK AND SHAREBROKER, SOUTHERNHAY, EXETER, near the Theatre.
Stock and Mining Exchange Lists received daily.

LONDON MINE AGENCY (ESTABLISHED 1848).
REMOVAL.—MR. PEET'S MINE AGENCY is REMOVED to 62, MOORGATE STREET, LONDON, where information may be had upon all mines, British or foreign.
Office of reference to mines. Reports furnished from competent and confidential agents. Loans upon shares, and stocks purchased or sold on the usual commission.
NOTE.—A few gentlemen may now join in the purchase of a mine, with great chances of a successful return for small outlay.
Mr. PEET calls attention to the SILVER BANK MINES, as a valuable property, and will furnish particulars on application. These shares will soon be at a high premium upon the merits of the mines, tested by sales of ore.
62, Moorgate-street, London, February, 1861.

JOHN GLEDHILL AND CO., MINE AGENTS AND SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.

MR. J. SYKES, LEEK, STAFFORDSHIRE.
WANTED:—5 Caradon Consols, £8; 50 Dale, 15s.; 10 Crebor, 10s.; 20 Kelly Bray, £1.—FOR SALE: 2 East Trekerby; 30 Dale, 17s. 6d.; 100 South Wh. Margaret.
Parties wishing to dispose of shares can have them inserted free of cost unless a sale is effected.

MESSRS. THOMAS PENROSE AND THOMAS PRICE UNDERTAKE ASSAYS AND ANALYSES OF EVERY DESCRIPTION OF MINERAL PRODUCT, FUEL, and MANURES, at Messrs. Richardson and Co.'s Assay Office and Laboratory, Copper Ore Wharves, Swansea.

NORTH WHEAL PROVIDENCE.—ONE HUNDRED AND FIFTY SHARES in this mine FOR SALE, at 16s. 6d.—Apply by letter, to "X. Z.", 3, Cannon-street, E.C.

MONEY ADVANCED in town or country, at long and short dates, on STOCKS, SHARES, or OTHER PROPERTY; also, on PERSONAL SECURITY. Bills discounted.—Address, enclosing stamped envelope, "A. W. T.", News Rooms, 151, Chapside, London, E.C.

TO COLLIERY VIEWERS AND OTHERS.—A YOUNG GENTLEMAN who has had several years' experience in the North, and can produce satisfactory testimonials, is DESIROUS OF OBTAINING A SITUATION as UNDERGROUND MANAGER. Can survey and plan, &c.—Address, "A. B.", Mining Journal office, 26, Fleet-street, London, E.C.—May 1, 1861.

IRONWORKS.—A PERSON of large EXPERIENCE in the MANUFACTURE of IRON in all its branches, in England with coal, and abroad with charcoal furnaces, is OPEN to a RE-ENGAGEMENT. No objection to go abroad. Satisfactory testimony can be given as to energetic and successful ability.—Address, "A. M.", Mining Journal office, 26, Fleet-street, London, E.C.

SECRETARY.—WANTED, the AID of a GENTLEMAN to FORM a small COMPANY for WORKING a MINERAL PROPERTY. The amount required is less than £1000. He may expect the secretaryship, at a moderate salary, as the duties will be very light. The undertaking is perfectly bona fide and sound, and will be shown on enquiry. References will be required and offered.—Apply in the first instance to "S. Y.", care of Messrs. Pottle and Son, Royal Exchange, London.

UNDER AN ENGINEER OR CONTRACTOR.—EMPLOYMENT WANTED by a young man on some large works in progress, in England or abroad. He is a fair draughtsman, is familiar with railway plans and surveying, writes a good and fast hand, and does not mind any amount of hard work.—Address, "F. A. W.", care of Messrs. E. Willott and Nephew, 63, Friday-st., Chapside.

TO CAPITALISTS.—In the West Riding of Yorkshire, an EXTENSIVE COLLIERY, comprising four seams of coal, upwards of 1600 acres each, three of them now at work, is in WANT of a PARTNER, who can bring in from £12,000 to £15,000, to fill the place of two partners who are retiring. Would not be required to take any active part in the management of the concern.—Full particulars on addressing "M. E.", Mining Journal office, 26, Fleet-street, London, E.C. Principals only treated with.

WANTED, an EXPERIENCED FORGE and MILL MANAGER at an IRONWORKS in WALES, where the best qualities of iron are manufactured. None need apply without a thorough knowledge of the best brands of pig-iron. Unexceptionable references required.—Apply, stating terms, to "B. H.", Mining Journal office, 26, Fleet-street, London, E.C.

FOREST OF DEAN, GLOUCESTERSHIRE.—TO BE LET, a COLLIERY, containing FOUR SEAMS of COAL, all newly opened for work, efficiently drained and ventilated, with short communication to the railway and shipping port. A working capital of about £1500 will suffice.—Apply to "A. Z.", Post-office, Regent-street, London, W.

WHEAL TREVELYAN, NEAR MARAZION, CORNWALL.—1, CAPT. PETER FLOYD, the original licensee of this mine (under Willoughby John Trevelyan, Esq.), and holder of a large number of £1 free shares therein, HAVING DIRECTED PROCEEDINGS IN CHANCERY TO BE TAKEN against the company, ALL PERSONS INTENDING TO PURCHASE SHARES in the said mine are hereby CAUTIONED that TWO HUNDRED SHARES in the said mine ARE FREE and PAID UP to £1 per share.
And ALL PERSONS who may HAVE PAID HIGH PRICES for SHARES to R. C. Hanam and Edward King, of London, the promoters of this scheme, or either of them, ARE REQUESTED IMMEDIATELY to SEND PARTICULARS THEREOF to my solicitor, Mr. J. BERRY, 27, Bucklersbury, London, E.C.
May 1, 1861. PETER FLOYD, Goldsmith, Marazion.

RELEATH TIN AND COPPER MINING COMPANY LIMITED,
AND
EAST RELEATH MINING COMPANY.

NOTICE IS HEREBY GIVEN, that Mr. PAUL RABY, Jun., is NO LONGER the PURSER and SECRETARY of the above companies, and that all communications relative to the business and affairs thereof must, until further notice, be addressed to me, the undersigned.
And notice is hereby also given, that ALL PERSONS HAVING CLAIMS upon or against the above-named companies, or either of them, for supplies to the mines or otherwise, ARE REQUESTED to SEND the PARTICULARS THEREOF without delay to me, the undersigned.
By order of the Directors and Shareholders,
32, Albion-street, Leeds, April 27, 1861. JOHN BLACKBURN, Solicitor.

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Original Correspondence.

USE OF SALT IN ASSAYING COPPER ORES.

SIR.—Referring to the letters which have lately appeared in the Journal, relating to the question whether the use of common salt in making assays of copper ores is injurious, we beg to hand you the following results of experiments which we have made for our own satisfaction, and which we shall be glad to have inserted in your Journal. Assays of four samples of copper ore, made in order to test whether the use of common salt is injurious, as compared with the results obtained by using purified salt:—

	Produce using common salt.	Purified salt.
No. 1—Copper ore containing chloride of copper.....	19% per cent... 20 1-16 per cent.	
No. 2—Copper ore containing sulphuret of copper....	14% " " 14% "	
No. 3—Copper ore containing grey sulphuret of copper 13% "	13% " " 13% "	
No. 4—Copper ore containing carbonate of copper ..	19% " " 19% "	

The above assays have been carefully made by our own assayer, Mr. Thomas Penrose. And the following are the results of careful manipulations of the slags by our chemist, Mr. Thomas Price. Analyses of slags, common salt having been used in the assay:—

	Weight of ore in grains.	Weight of slag in grains.	Grains of copper found in slag.	Percentage of copper lost.
No. 1	400	724	607	1517 grs.
No. 2	400	640	625	1662
No. 3	400	712	812	2030
No. 4	400	800	876	2190

Analyses of slags, purified salt having been used in the assay:—

	Weight of ore in grains.	Weight of slag in grains.	Grains of copper found in slag.	Percentage of copper lost.
No. 1	400	584	348	8870 grs.
No. 2	400	665	399	9997
No. 3	400	593	474	1185
No. 4	400	560	672	1680

Seaneas, April 25.

RICHARDSON AND CO.

IMPROVEMENTS IN THE MANUFACTURE OF STEEL.

SIR.—The subject of nitrogen being contained in some form in steel, which has been discussed in the Journal, is of the greatest interest to chemists as well as manufacturers, and it is important to us in England to have clearly before us what new fact has been established, and give the honour accordingly to M. Frey, if he has gone beyond the knowledge possessed on the subject by our own metallurgists. As you have pointed out long since, we were all aware of the influence of cyanogen, and of conditions favourable to the production of cyanogen upon the conversion of iron into steel. If one alkaline cyanide (say that of sodium) is useful, as was shown by Mr. Charles Sanderson, those of potassium, barium, and calcium would be almost sure to be equally efficacious.

Mr. Binks has also very clearly made out that nitrogen is useful in forming steel, and he draws a conclusion that it is contained in steel. The gist of the matter lies here—Mr. Binks has not proved the presence of nitrogen in steel. Has M. Frey done this? The experiment recorded of a blade of steel submitted to red heat and a current of hydrogen, and which was said to give off ammonia for two hours, is simply ridiculous and incredible. What we chemists would like to know, in the absence of any published details of M. Frey's experiments, is *what quantity* of nitrogen did he find in steel, and what precautions did he take to exclude nitrogen from any other source during the experiment? If his results can be then obtained by any other careful manipulator, I think he deserves the honour of having first proved the presence of nitrogen in steel.

Sheffield, May 1.

WILLIAM BAKER.

CHEMISTRY OF STEEL.

SIR.—The question of the nitrogen theory of composition still continues to occupy the attention of the foreign scientific journals, but without developing a single fact that has not already been anticipated by the English chemist. The only recent novelty in these discussions is the curious fact that these savans still continue totally to ignore the previous discovery of 1857. M. Frey relies for his deductions a good deal on the chemical composition of the residue obtained in dissolving steel in acids. This, he says, is entirely different from carbon, and approaches, in its properties and composition, very nearly to cyanogen. Mr. Binks, in his paper of 1857, under the head of "Some Evidences of Analysis as to the Composition of Steel," dissolves the steel in acid, collects and analyses the residual matter, and then says "it is obvious that this residue is an azotised carbon, out of which fact arises some important considerations"—considerations terminating in his establishing the fact of the existence in steel of both nitrogen and carbon, and that in some form analogous to cyanogen. Again, M. Frey attributes to himself the first recognition of what the real action is that takes place in the ordinary process of cementation, and that the nitrogen is essential also here. Mr. Binks, in his paper, examines also this question, and shows that it is through the interplay of the nitrogen of the atmosphere permeating the charcoal in the boxes, and giving rise to a mixture of carbonic oxide and nitrogen, that the steelifying action on the iron, in this case of conversion, is solely due. M. Frey, therefore, was not the first to detect the presence of nitrogen in the residual matter, nor to detect the true action or agency of nitrogen in the cementation. A series of similarly parallel announcements and of clear anticipations runs throughout the whole of these two papers.

Again, one of the most conspicuous of the practical deductions arrived at by Mr. Binks points to the superior applicability of cyanogen compounds for producing masses of steel, as well as for case-hardening, according to the ancient usage. There is nothing new in the application of cyanogen in steel-making. It has been used directly or indirectly for ages. It was used, but unconsciously so, by the late Mr. Heath; by Mr. McIntosh, in his steel-making by coal gas—for ammonia was present there, and this, plus the carbon under a high temperature, gave cyanogen. Mr. Binks himself, in 1846, proposed gaseous cyanogen and compounds yielding it. But in every instance, previously to Mr. Binks's paper of 1857, these cyanogen compounds—prussiate of potash, for example (*i.e.*, ferrocyanide of potassium)—were resorted to only as convenient modes of supplying the carbon under the old theory; cyanogen consisting of one equivalent of nitrogen, plus two of carbon—the co-agency of the nitrogen being always overlooked. Mr. Binks was unquestionably the first, either in this or in any other country, to recognise the co-operation of the nitrogen as *essential* to steel-making, and to demonstrate the fact that its invariable presence is not merely accidental or incidental, or simply coincident. This important deduction is already bearing its practical fruits in many directions. The cyanogen compounds (or elements yielding them), because of their associated nitrogen element (and not only prussiate of potash, as of old, but others of them), will, doubtless, henceforth and forthwith become the principal agents in the production of steel. It is already being so made in the United States, in England (by your old friend Mr. Mushet), and in France. In due time the true interpretation (Mr. Binks's) of the chemical action of these compounds will also be universally recognised.

To recur, momentarily, to the French proceedings. A more complete anticipation of what is now, at this long subsequent date, brought forward as new can scarcely be conceived. In the French Academy "was produced," it is said, "a profound sensation" on the communication, by M. Frey, of this nitrogen discovery, and yet not a word was there said as to its real authorship. Mr. Binks courteously exonerates these French gentlemen from all intentional ignoring. He believes that they never saw his paper. But one cannot say the like of some other resuscitations. The Americans have deliberately taken Mr. Binks's series of experimental demonstrations, and as deliberately ignored the authorship (see the *Scientific American*). One M. Fleury, of New York, writes, within the last week or two, to the *Mining Journal* (April 13), and with a most amusing coolness claims the nitrogen discovery as his own. It is but a poor and a short-lived game to play—that of appropriating, or of attempting to ignore, a scientific result already placed upon record. An English scientific man must, in his own day, take care of his own interests, never trust to the remembrances or to the tender mercies of his contemporaries or his co-laborers, whether they chance to be his own countrymen or his countrymen's transatlantic relatives—some exceptions, notwithstanding. The sympathy and the sense of justice of the French, in relation to matters of abstract science, are notorious. They will fight for their own, but they never ignore the claims of the foreigner, though that foreigner may, for the time, be even an enemy, nationally. Witness the visit, during the hottest period of the last war, of Davy to Paris, made by the special consent of the first Napoleon, and the courtesy he there and then met with.

Mr. William Fairbairn has, within the last few days, published his new book on Iron and Steel, and on the "Composition of Steel." Mr. Fairbairn occupied the chair at the Society of Arts when Mr. Binks's paper was read. This new publication by Mr. Fairbairn is intended, of course, to represent exactly the present position of the chemistry as well as of the manufacture of steel. Yet has Mr. Fairbairn totally ignored the existence

of a doctrine and of demonstrations that, as scientific speculations, are deeply interesting, and that are already leading to the most important practical actions. What, in matters scientific, is the law of *resistance* (passive) against innovations, its quantity and duration, that ever regulates the action of established authorities? Was the chemistry here involved too far in advance of this distinguished mechanist and writer? or are the old "stereotyped and re-stereotyped doctrines about steel of the English Encyclopaedias" to be perpetuated for yet another generation?

London, April 30.

CHEMIST EDINBURGH.

NEW THEORY ON THE COMPOSITION OF STEEL.

SIR.—What is steel? seems to be a question to which no satisfactory reply can be given. Since the end of the last century it has always been taken for granted that this metal was a carburet of iron, and until the late researches of M. Frey, based without doubt on the discoveries of others—for M. Frey, be it understood, makes no claim to a new invention or discovery, but simply new features tending to perfect former theories—produced new and almost conclusive experiments, but which, nevertheless, render the question more intricate and difficult than ever. The systems of Mushet, Uchatius, Bessemer, Krupp, and Motay, with the theories of McIntosh, Sanderson, Binks, Caron, &c., all differ, and but few of them are carried to any practical result. This last discovery, however, of M. Frey gives us two regular, simple, and very beautiful processes, the study of which may be made either singly or simultaneously, and enable us to determine the exact influences which ammoniacal and coal gases exercise upon iron for its conversion into steel. The constitution of steel, then, would seem to be established, both synthetically and analytically, since we can convert iron into steel by nitrogenising it when carbonised, and deprive it of all its qualities as steel by taking away its nitrogen by means of hydrogen.

The presence of hydrogen in the fuel necessary for the conversion of iron into steel will explain some of the customs in use in certain manufactories, and the part that organic matter sustains by being added to the fuel used in cementing ovens. Thus the use of organic substances for producing rapid cementation; as horns, soot, leather, animal excrement, &c., are precisely those bodies which produce highly nitrogenised fuels.

We now come to a most interesting suggestion. Does there exist, as already admitted by a great number of metallurgists, minerals used in the manufacture of steel which contain substances as yet unknown to chemists, and which invest certain steels with their valuable qualities? We can only add our belief that such is the case, and patiently await the discovery of this unknown substance, accepting all improvements with gratitude, leaving the different inventors and their partisans to believe each in his own theory, and this important question, we confess it with regret, unanswered. Everyone will agree that the experiments of M. Frey, taken as a whole, and which so happily explain or complete numberless facts already known by practice, or advanced theoretically, must throw a brilliant light on the manufacture of steel. In last week's *Mining Journal* you described certain processes invented by Mr. Cazanave, of Paris, for case-hardening and softening iron, which is to my mind the putting into practice in a different manner the theories enunciated by M. Frey; and I would direct the attention of all interested in the manufacture of iron and steel to this invention, and compliment that gentleman on either making a simultaneous discovery or putting into practice a foreign theory.

S. G. O.

* We shall give more detailed particulars of this invention in next week's Journal.

MANUFACTURE OF IRON—TOOTH'S PATENT.

SIR.—My attention has been called to some remarks which recently appeared in your columns upon the subject of Tooth's Patent Right, which I remember was some time ago brought in question in your valuable Journal, when I endeavoured to exhibit the real state of the question of the validity of his patent. As the question to be considered in this case is one of great importance to many patentees and inventors, I now essay to supply some answers to the very apposite questions put. I would, however, premise that you are certainly quite right in considering any patent circumstance as Mr. Tooth's is of doubtful validity, though I consider there is much may be said in his favour, for although Mr. Tooth's first provisional protection lapsed, yet it appears that before any actual publication of his provisional specification took place he obtained another provisional protection, which latter he afterwards legally merged in the complete patent right, which, he it observed, has no legal connection with the first provisional protection, the only point to be considered in reference to it being the question whether such first provisional protection is such a proceeding in law as shall amount to a prior publication or bar to the legality of the second, as to which it may be argued that in contemplation of law the publication takes place as and from the day any application is made and recorded, for then a description, called the provisional specification, is deposited with the proper Government official, who may be said to be acting for the public, so that the same may be taken to be in the hands of the public as and from that day. Moreover, a person who acts as Mr. Tooth has acted would, if the law be in his favour, obtain a protection at law for his invention six months longer in duration than the person who has only one provisional protection, and does everything in the ordinary course of law; on the other hand, by the present practice of Patent Grants, no actual publication is made to third parties until the first six months is completed, for the provisional specification is not published, nor even allowed to be inspected, till the six months' end; and, moreover, the provision in the Act that an application and provisional protection made in fraud of a true and first inventor shall be no bar to a patent applied for *after it*, but during the provisional protection, by the true and first inventor, shows that two precisely similar specifications can be allowed to remain on record at one and the same time; and also it is to be remarked that any provisional protection grants immunity to any use and publication.

With regard to the question you put, what improvement would such a system be upon that in vogue, under the old law—"That of keeping an open title"—*i.e.*, applying for a patent, and giving only "Improvements in machinery for puddling iron," or what not, waiting six months, picking up information everywhere and anyhow, and then specifying?—I answer, every way; for now the provisional specification fixes and defines the principles of the invention, and will limit the claims in respect thereto. Moreover, it must be borne in mind that the second provisional specification will be the one remaining valid and effective, and, therefore, the date and wording of it alone will be the question in any dispute; and anyone who likes to oppose the second grant, may make the best use he can of the first provisional specification.

As to the question—"How would the inventor be protected in case an infringement commences during the six months between the filing of the provisional and of the complete specification?"—I have only to remark that the Patent Law Amendment Act in no case, even when all is done in the usual way, gives any right under a *provisional protection* only to sue for an infringement, the right being inchoate, and the description remaining unpublished, as it was, I presume, not thought fair to allow law suits to be maintained without completing the patent.

As to decisions in Mr. Tooth's favour, I am unable to name any, though I have been given to understand that the Crown law officers have allowed second provisional protections at the risk of the applicants; but a bill, promoted by myself and the Patent Law Amendment Association, brought into Parliament by Mr. T. Duncombe, M.P., to settle this question, was thrown out at the instance of Sir H. Cairns, then Solicitor-General.

Patent Office, May 1.

F. W. CAMPTON.

THE DURHAM MINING COLLEGE.

SIR.—At a recent meeting in London of the Coal Masters Association the question of the establishment of a Mining College for the North of England was again brought forward, and I regret to say a resolution was passed which certainly will not add to the reputation for consistency of the members of that body. When the Mining College was first proposed it appeared likely to be established upon something like a respectable basis; but now it has degraded into a sort of begging nuisance—first, aid is sought from the University of Durham, and next from the Government; it is true the members of the Coal Masters Association have used a *they*, which leaves it doubtful whether it is the wish of the Association that the University or the Government should supply the funds; but surely the coalmasters are wealthy and influential enough to found a college for instructing their sons and servants without placing them upon a level with the children in charity schools. I intend, however, that the Mining College is not required; and that, if established, it would be worse than useless.

The coal owners have very properly opposed compulsory education for miners, or it would have been provided in the present Inspection Act, and now they very improperly beg for money for a Mining College. A mining college would be alike prejudicial to masters and men. The masters will have their work less efficiently done, because it will be left to gentlemen with University titles instead of men who have learnt their business during

a connection with collieries, whilst from the same cause the safety of the men will be jeopardised. The inconsistency of which I complain is, that the provisions of the Coal Mine Inspection Act were objected to, and that now the very parties who opposed the educational clauses in that Act think of applying for pecuniary aid for educational purposes. If it be contended that the college would permit of a higher class of instruction being obtained, the scheme is equally valueless, for the Durham University already provides all that is necessary for engineers connected with collieries, and confers the degree of C.E. Between the thorough scientific studies which may be pursued in the University of Durham and an adult school system, which shall be available to all colliery officers and the more intelligent of the men, no intermediate stage is, in my opinion, required.

DUNELM.

NEW METHOD OF EXTRACTING SILVER FROM THE ORE.

SIR.—I have observed that Herr Von Pakera, an Austrian chemist, has proposed the following method of extracting silver from its ore:—By first roasting the ore with green vitriol and common salt, chloride of silver is stated to be produced. The product, by means of hyposulphate of soda, is dissolved, and sulphate of sodium is then used to precipitate the precious metal as sulphide of silver. This, on being heated, allows the sulphur to escape as vapour, leaving the silver pure. May I ask whether any of your numerous scientific correspondents can say whether this mode of treatment effects any economy in the metallurgical operation as compared with the ordinary process, or an increased production of the precious metal? By increased production I mean a smaller amount of precious metal left in the residuum unextracted, which ordinarily is very considerable.

INQUIRER.

DISCOVERY OF GOLD IN NOVA SCOTIA.

SIR.—There was a considerable excitement last year in this province caused by the discovery of gold at Tangier, which is about 40 miles to the eastward of Halifax, and some 12 miles back from the Atlantic coast on the Tangier River. I visited the place in last July, and found the gold was being procured from loose pieces of quartz and slate mixed together, and scattered over the ground of all sizes, from large boulders to small gravel. It was in the midst of dense wood, where a small stream flowing from a lake passed among the rocks. The only ridge of rock that I could see *in situ* was "primitive slate," with ferruginous-stained quartz veins running through it, containing small cubes of pyrites and marcasite. No gold was discovered in the solid veins, and though many people spent some time there, and obtained some small quantities, yet I doubt if any one got paid for their labour.

About a month since a fresh discovery has been made some 10 miles from the former place, on the same Tangier River, and only a mile from the sea shore. Here the gold is obtained from a quartz vein from 2 in. to 3 in. thick, running east and west through primitive slate, apparently underlying south, though not much can be said about it at present, as no excavation has been made below 2 ft., the men working in the rudest manner, breaking off the quartz with hoes and axes, and pounding the quartz with a hammer on any contiguous rock. This discovery is on granted lands; but as all gold and silver are reserved, the Government have sent down a surveyor, and rented out blocks of ground, 20 by 50 feet square, for \$40 per annum, in lieu of royalty; and they give the owner of the land one-tenth as a rent and for surface damage. Several claims have been taken up, and as soon as the snow is out of the woods we may expect a good many people will go to these Nova Scotia diggings, as the place is so easy of access, and so near to the United States, where so many people are now thrown out of employment. Gold has also been found at the Eastern Passage, opposite to the McNab's Island, in the Halifax Harbour, mixed with magnetic black sand, and, therefore, gold may very probably be found distributed over a large district of Nova Scotia. Only one claim where the discovery was last made is at present being worked, and in their rude way they are getting from 1 to 1½ oz. per diem, for which they are getting \$18 per oz. in Halifax, as the gold is considered very pure, and is being bought up by the dentists; so that, in a short time, anyone requiring it may have their mouth filled with Nova Scotia gold.

Public attention has been again lately turned towards the importance of making Halifax a terminus for a great intercolonial railway, and I make this communication in hopes that it may assist in promoting so desirable an undertaking, both for the mother country and all the North American colonies.—Halifax, Nova Scotia, April 17.

HENRY POOLE.

THE RISCA EXPLOSION, AND INQUEST.

SIR.—Will you kindly favour me with space in your valuable Journal of this week for the enclosed remarks, published in the *Star of Gwent* of April 13, and made by Mr. E. Elliott, mechanical engineer, Machen Colliery, near Risca, whose name appeared in my Report as being one of the gentlemen that accompanied me in my examination of the Black Vein Pit, Risca, after the awful explosion of Dec. 1 last? I shall only trouble you to print a portion of the letter, on which I wish to make a few remarks; the other being a repetition of my dimensions and figures given in my Report, and already published in the Journal:—

"In company with Mr. Palmer, Mr. Morgan, Mr. Shearne, and others, on Jan. 22, and the two following days I descended the No. 1 Black Vein Pit. On Jan. 22, after having examined the barometer, we proceeded about 80 yards down the slope or incline bank, and there measured the air. We found by the anemometer that 4,591 cubic feet of air per minute was passing into the workings. On the 24th we again measured the air in the same place, and found 44,752 cubic feet of air per minute; the average lineal velocity here was 13 ft. per second. On the 22d we measured the air at the bottom of the slope, where it splits into the east and west sides, and on the fourth east or lowest level found 11,730 cubic feet per minute passing through the main intake, where all the air passed which ventilates the east side, except a split of 3000 ft. per minute that passes into No. 1 east level heading, as it did before the explosion. On the 24th, at the same place, we measured the air, and found 10,740 cubic feet per minute passing; the average lineal velocity here being 12½ ft. per second. On the 23d we found 10,163 cubic feet per minute passing into the third or lowest west level, being the main intake through which all the air passes which ventilated the west side then, as it did before the explosion. On the 24th we found in the same place 11,008 cubic feet per minute; the average lineal velocity being 6 ft. per second. These measurements in the 3d and 4th east main intakes, including the split of 3000 cubic feet per minute into the first east level, show a deficiency of 20,000 cubic feet per minute between the quantity measured at the top of the slope and that registered in the different levels. We next measured the air in the main returns. On the east side, about 20 yards from the separation-doors, we found 30,081 cubic feet per minute, at a velocity of 12½ ft. per second. The difference here between the fourth east intake (10,740) and the scale of 3000 cubic feet per minute into the first east level is 6341 cubic feet per minute, there being that quantity more coming out of the return than is found to be going into the workings. This deficiency in the intake current might be accounted for by the leakage on the temporary separation-doors on the second east level, together with the fact that several stoppings were damaged by having their tops blown off by the force of the blast consequent upon the explosion. Our next measurement was in the west main return, between Nos. 1 and 2 level headings, 8 yards below the former, where all the west side air, after having performed its work, enters the main return air-course, from whence at present it has to travel a distance of 900 yards before reaching the upcast; and before the explosion it had a distance of 1600 yards to travel, with the exception of a small quantity, which was scaled off to ventilate the travelling way for the horses to the stables in the return, and this road is now made use of as a return for the west side air. We found 15,663 cubic feet of air per minute passing at a velocity of 13-6 ft. per second, the area here being only 19½ ft. It appears from this that the air in traversing these workings increases in bulk 4657 cubic feet per minute. This increase might, in a great measure, be accounted for by the leakage on the temporary separation-doors on the second west level, and a scale on the stoppings near the slope. The sum of the measurements in the east and west returns, deducted from the quantity registered on the slope, or main intake, still leaves some 9000 cubic feet per minute unaccounted for. Now, this missing 9000 cubic feet per minute, in my opinion, gives rise to a very important question. Mr. Morgan makes no further remark than that it must pass through old workings, doors, stoppings, &c. I understand the Black Vein workings at Risca are at all times subject to heavy falls, and the main returns are, generally speaking, surrounded by large goaves, and the result of these two circumstances combined might be the formation of various passages through the broken stratification above the coal, through which air might find its way to the upcast pit, and thus it would not be seen in any of the returns, nor shown by the anemometer when the measurements were taken. Granting Mr. Morgan's statements with regard to this missing quantity of air to be in a measure correct, yet I contend there are reasons, governed solely on mechanical laws, that in mines, where machines on the same principle as Mr. Struve's are employed for ventilation, there will in all cases be more air shown by the anemometer in the intakes than the returns. In order to satisfy myself on this point, I have recently made experiments in the Black Vein, the results of which are as follows:—I found the entire quantity of air which ventilates the workings of the Black Vein to be 37,355 cubic feet per minute, and scaling through the main separation-doors 5563 cubic feet per minute, making the total quantity circulating through the mine 42,918 cubic feet per minute. Between the top of the upcast pit and the anemometer I found to be passing 33,032 cubic feet per minute. This, deducted from the above quantity, shows a deficiency in the returns of 4686 cubic feet per minute; and from the theoretical calculation a deficiency of 10,826 cubic feet per minute; the machine at this time going eight strokes per minute. On the day I made these experiments the barometer at the bottom of the downcast indicated 29-8-10ths in. of mercury, and the thermometer 50° Fahr. *** My opinion with regard to the deficiency in the returns is that the air, after passing through the workings, is expanded to a certain extent, and becomes lighter in body. Hence before it can be discharged against the pressure of the atmosphere (14-7 lbs. per square inch) it must be brought into the same density as it is at the top of the downcast pit. This is effected when the air-piston is at the return of the stroke, at which time a certain amount of atmospheric air rushes through the flaps before they close. Under these circumstances, I contend that it is an utter impossibility for the machine to pump the quantity of air it is calculated to do."

The mining public will please remember that the engine slope, or main intake air-course, where Mr. Elliott measured the air, is the only ingress for air through the mines; and by top of upcast shaft, where he registered the return air, is the only egress for the discharge of the return air after passing through the mines. Your readers will perceive that Mr. Elliott comes to the conclusion that 42,718 cubic feet of air per minute was

circulating through the mines, which I do not dispute the correctness of; but to me the most wonderful part is that the coal only first 38,000 cubic feet in the main return by the ventilating machine, where all the air that descends the engine slope, or main intake, must be discharged. At the same time, Mr. Elliott admits that the air is expanded in volume by passing through the mines. Query.—Pray what has become of the other 4686 cubic feet per minute that he accounts for in the intake, but unaccounted for in the return (as nothing about the air being expanded in volume by passing through the mines)? Is this quantity of air (4686 cubic feet per minute) annihilated, and put out of existence, or how is it to be accounted for by Mr. Elliott's new law of pneumatics?

I should deem it a favour if any of your intelligent correspondents (theoretical and practical) would be good enough to favour myself and the mining world with their opinion on the important (but to me conflicting) theory of Mr. Elliott; and if such a state of things can possibly exist without overthrowing all the ancient and modern laws of pneumatics, so as to give room for Mr. Elliott's new law. Indeed, if such statements be correct, the result will be that many eminent mining engineers of long standing must go to school to Mr. Elliott, and amongst the humblest of them I shall try and creep in myself.—*Brendon Hills, April 29.* —MORGAN MORGAN, Mining Engineer.

CERTIFICATES TO UNDERGROUND MANAGERS OF COAL MINES.

SIR,—I am glad to see that the very excellent proposition for prohibiting the employment of other than certificated colliery officers is still receiving attention; for I am thoroughly convinced that until some such system be adopted there will never be introduced the most efficient known modes of conducting colliery operations. Mr. Fryar's views are, I think, in every way worthy of consideration, and there can be no doubt that from his position he would be very certain not to propose anything likely to act against the master, nor indeed anything that he is not prepared to prove would be alike beneficial to masters and workmen. The arguments which have been adduced in the *Mining Journal* are, in my opinion, almost conclusive in favour of the granting of Government certificates; but, as in all these matters there are conflicting interests to be considered, I have not seen any detailed and systematic statement of the objections to the scheme, and think that if this were published it would greatly aid in putting the matter in its proper light. If Mr. Mark Fryar would undertake to give this as far as he is able, he would add to the many benefits he has conferred on working colliers, and will, I am convinced, be the means of enabling every objection to be refuted. D. B.

VENTILATION OF MINES.

SIR,—I give Mr. H. W. Reveley credit for good intentions in his communication in the *Journal* of April 20, though practical experience would soon convince him of the impracticability of his views. I will, however, begin where he has left off, and ask,—1. Does any man who has had ten years' practice in coal mines approve of flexible gas-pipes in a pit 200 fms. deep? The first difficulty is to get the gas to descend; then two or three miles, at least, of mains to be kept tight; then twenty or thirty miles of branch pipes, and the same of flexible pipes. In most mines the roof is subject to falling, in greater or less quantity, and sufficient to crush and burst such pipes; and as soon as the pillar workings commence the thill heaves and spasms everything laid continuously, as in the case of pipes. Above all, it is adding fuel to the fire, and making more danger of explosion than before; and instead of avoiding an "army of overlookers, firemen," &c., there would be required an additional division, or, at least, regiment of gas-fitters, plumbers, &c.—2. I do not see where a "few only" of safety-lamps could be hung up at permanent points, to give warning of the undue presence of "hydrogen" (perhaps carbon would have been as near the mark), "so that signals could be sent to bank" for the duplicate ventilating apparatus to go to a little harder. The coal face is a place where gas generally is met with, particularly in the case of blowers; this could hardly be considered a "permanent point," and with naked lights at hand there would be just as great likelihood of the gas coming in contact with them as with the "permanent points," where some one would have to be stationed to watch them.—Lastly, I do not at all see that "the great object is only to be attained by sinking upcast shafts or large bore-holes (a host of good bore-holes would do) in such situations as to cut the highest levels underground, at which all foul and heated air and hydrogen would naturally accumulate." The hydrogen (Mr. Reveley seems to have an antipathy to this gas) might rise, but what becomes of all the carbonic acid, black-damp, &c., which is as much to be dreaded as the fire-damp? In my opinion, if Mr. Reveley is a pitman he ought to know something more of his profession; and if he is not, he had better turn his attention to the prevention of shipwrecks, railway accidents, and other equally laudable objects. April 20.

BORING FOR COAL—"SINGULAR PHENOMENA."

SIR,—A paragraph in last week's *Journal* headed "Singular Phenomenon," hardly conveys the full information which many desire, and I am, therefore, induced to send you some particulars of general interest relative to a matter which is novel and instructive to the intelligent, and marvellous to the vulgar.

Near the Featherston station, about three miles and a half from Pontefract, and five miles and a half from Wakefield, boring for coal has been in progress for some time, and has reached a depth of 140 yds. from the surface. At this depth the boring was advancing through a thick layer of blue sandstone, which overlies the coal-bearing strata throughout a wide area in this district. On Saturday, April 13, while the borers were at work, a strong smell of gas was perceived, and suddenly an eruption took place, which threw the muddy water from the bore-hole about 30 ft. in the air. This continued, and put an end to the boring. Subsequently, some one applied a light to the gas, which then formed a fiery pillar of considerable height, such as would be formed by lighting the gas that would issue from a broken street-main through a hole in the soil above it containing water. An exact imitation of this natural phenomenon may be obtained on a small scale by placing the end of a small gas-pipe in water, and igniting the gas as it bubbles through the surface of the water. The gas at Featherston has continued burning ever since it was lighted, but with a gradually diminishing flame, and it now ascends to about 5 ft. above the level of the water. The flame can be put out by beating the surface of the water with a plank, and it can be re-lighted at pleasure.

Popular opinion on this matter is very amusing, and helps to show how in a less enlightened age natural occurrences were set down to witchcraft or miracles. Some persons aver that the gas took fire of its own accord, without human intervention, and predict a burning of long duration. Others assert that the gas is on fire "at bottom," so that 140 yards depth of water is obliging enough to allow flame to pass through it without extinction! While others really regard the water as in combustion, though upon immersing the hand it is found not to be warmer than the water of a pond in summer. The truth, of course, is simple. The iron tools used for boring make a hole in the earth a little larger in diameter than a man's arm, and this hole becomes filled with water from the various strata pierced by the borer. In the blue sandstone above mentioned there was stored a quantity of gas produced from the coal beneath, and owing to the close nature of the superincumbent mass, that gas existed under great pressure. The borer's tool penetrated this stony reservoir of gas, and instantly it forced its way up the bore-hole, and carried onward part of the water which obstructed its exit. The gradual action of the bubbling water has removed some of the surface soil, and hence the visitor sees a hole full of water about 10 ft. across, part of which is in violent ebullition, owing to the escape of gas, which burns with a flashing and variable flame. The point of scientific interest in the case is the universal testimony that the gas, upon its first eruption, gave as much light as coal gas, whereas the ordinary fire-damp of coal mines is not an illuminating substance. On Thursday last I collected some of the gas, which smelt strongly, as if it really contained a portion of the odorous bodies which confer upon coal gas its illuminating property, and if any of these substances be found I propose to publish the analysis of the gas.

This phenomenon has been called "unprecedented." It is far from unprecedented, though rare. I am informed by an eye-witness that the same thing was seen a few years ago near Aberford, on the estate of Mr. Gascoigne, and also about half a century ago at the Bowling Iron-works, near Bradford. There are also the old cases of a well near Wigan, which took fire on the approach of a lighted candle ("Philosophical Transactions," 1667), and a ditch in the same locality, of which "the water would seemingly burn like brandy," mentioned in the "Philosophical Transactions" for 1739, both of which resemble the one now to be seen near Featherston, and both, like it, produced by gas generated in adjacent coal.—*St. Andrew's, Wakefield, April 29.* W. R. BOWDITCH.

FATAL RESULTS FROM PREMATURE EXPLOSIONS.

SIR,—I perceive by last week's *Journal* that death has again been the result of premature explosion in Cornwall, and I would ask, with you, "when will blasting with naked powder be done away with?" Allow me also to add my humble effort to persuade mine agents to entirely prohibit its use, as with a knowledge of the frequent fatal results arising from this cause a continuance in the present practice, although a remedy is provided, may bring blood-guiltiness on their heads, to say nothing of the curses of the widow and the fatherless.

The recklessness which I have witnessed, and which I have no doubt is still practised by many careless beings, is really fearful; and the wonder is not so much that there are many victims as that there are so few.

Capt. Webb should feel no delicacy in advocating the use of cartridges because he has a patent for some peculiar construction; the man who can produce the means of saving human life is a benefactor to society, and as such should be rewarded. I have no doubt Capt. Webb's cartridges are all that can be desired for every situation, still the miner is not compelled to adopt them, since a cartridge can readily be prepared by rolling a little brown paper on a "swab-stick," and securing the edges with grease; but if it be left to the choice of the men, cartridges will only be used when the presence of water compels it.

Mr. W. Carne, of Falmouth, once did me the honour to ask my opinion of their use, when I unhesitatingly approved. He immediately confirmed me in this opinion, by stating that at a mine in which he was manager (I think Wheal Lovel) he had forbidden the use of naked powder under any circumstances, and only supplied the men with "Copeland's cartridges;" the consequence was that only one accident had occurred in the year, and that was produced by the use of naked powder, surreptitiously obtained.

There is another practice in blasting which I would take this opportunity to deprecate, and that is "tamping with a mallet." Cornishmen will understand the term. I have known agents inflict a fine on all parties detected in this practice, which can also count its many victims, and yet men would persist in doing it.

The process of charging a hole is one in which too much care cannot be taken, and the tamping should be done with a hammer only. I feel no

hesitation in asserting that a hole which will not lift its burden when properly tamped with a hammer, wielded by one hand, is improperly placed.

I hope for the credit of the mine management of Cornwall that the plan adopted by Mr. Carne, and, as I see in your report of the accident at the Charlestown United and the Cuddra Mines, will become general throughout the county; and I would further suggest that the mode of blasting is a subject well worthy the attention of the Miners' Association of Cornwall, and that both members and lecturers should lose no opportunity of decrying the present reckless system. WILLIAM RICKARD.

Academy, 4, Myrtle-street, Liverpool, May 1.

THE MINING INTEREST—INTERNATIONAL EXHIBITION OF 1862.

SIR,—I enclose copies of a Memorial sent to Her Majesty's Commissioners for the Exhibition of 1862, and their answer to the same, and shall feel obliged if you will insert them in your next *Journal*.

Neath, April 30.

ALEXANDER WILLIAMS.

TO HER MAJESTY'S COMMISSIONERS FOR THE GREAT EXHIBITION OF 1862.

We, the undersigned owners of mineral property, producers of minerals, mineral manufacturers, and others, either exhibitors in the Great Exhibition of 1851, or intended exhibitors in the proposed Exhibition of 1862, beg to direct your early attention to the desirability of preparing and publishing, as soon as possible, some digest of plan, according to which the minerals and mineral manufactures in the coming Exhibition shall be arranged. We further beg respectfully to suggest that such plan should admit of the various minerals and mineral manufactures being so placed and arranged as to admit of a ready comparison of similar productions, and also of raw materials being exhibited as far as possible in direct relation with the various manufactures they are used for.

We submit that by the early publication of some plan or method of arrangement to be adopted in the building, we shall, as exhibitors, be placed in the best position for carrying out the object of the Exhibition, to exhibit progress in manufacture, and, at the same time, shall be best enabled to prepare and adapt the various objects we desire to exhibit.

Yvian and Sons; M. Mogridge; George Grant Francis, a Local Commissioner, at the 1851 Exhibition; the Governor and Company of Copper Miners in England, per Wm. Price Strud; John Biddulph; Townshend Wood and Co.; Joshua Williams and Co.; Aberystwyth Tin-Works; Arthur Bankart, Red Jacket Copper-Works; Griffith Lewis, Ynysmeirch Brick Company; C. W. Neville, Llanelly Copper-Works; Morgan, Perkins, and Co., Colliery Owners, Llanelly; John S. Tregonning and Co., Tin-Plate Works, Llanelly; T. Williams, Manager, Lead-Works, Llanelly; Neath Abbey Coal Company and Self, per H. H. Price; Penrose and Starbuck, Colliery Proprietors; Smith, Morris, and Co., Vernon Tin-Plate Works, Neath; Dillwyn and Co.; Sweetland, Tuttle and Co., Briton Ferry Copper-Works; Redbrook Tin-Plate Company; R. Kyrie Penson, the Rhoe Colliery Company, and the Ynysmeirch Colliery Company, per George Bush; the Briton Ferry Iron Company, per R. Phillips; the Melincroft Company, Chemical Works, Neath; Richard Morgan and Sons, Anthracite Coalowners, Llanelly, Carmarthen; William Roper, Penclawdd and Corrway Collieries, Llanelly; Neath Abbey Iron Company, Neath Abbey, Neath; J. W. Young, Mineral Plant Manufacturer, Neath; the Galdry Iron Company, Aberdare; David Davies, Blaengwawr Collieries; Samuel Thomas, Sguborwen Colliery; Ebenezer Lewis, Bwila Colliery; Crawshaw Bailey; the Aberdare Iron Company, Aberdare; the Aberdare Coal Company, Aberdare.

SIR,—Her Majesty's Commissioners for the Exhibition of 1862 direct me to acknowledge the receipt of your letter of the 15th inst., and of the memorial sent therewith. I am to inform you in reply that the Commissioners are glad to observe the interest which the memorialists, representing various mineral productions of South Wales, take in the arrangement of the Exhibition.

But before any plan for the actual arrangement of objects in the Exhibition building can be determined on, it is indispensable that the Commissioners should be informed by foreign countries and British colonial exhibitors what are the precise classes of objects to be exhibited, and what space they are likely to occupy. The experience of the Exhibition of 1851, and of the Paris Exhibition of 1855, shows that there are great difficulties in obtaining such information from foreign countries and exhibitors in the colonies until a very late period. Moreover, any plan of arrangement must not only be possible of accomplishment within a short period, but must be one which the exhibitors would be willing and able to execute on their own behalf. The Exhibition throughout is a voluntary and self-supporting work, and it is essential to success that nothing should be attempted which was not likely to receive the heartiest co-operation of the exhibitors.

The Commissioners do not apprehend that any official rules will prevent the memorialists from giving effect to their own wishes of exhibiting specimens of like minerals together for the purposes of comparison, and of accompanying them with illustrative matter, models, diagrams, &c. Such a work must, however, be done by exhibitors themselves. The Commissioners will be glad to hear that the proprietors and workers of copper mines, for example, have entered upon some united course of action for exhibiting samples of copper from all parts of the United Kingdom in a systematic series, and of inducing copperminers and other manufacturers of articles produced from copper to exhibit their manufactures in juxtaposition, and in illustration of the employment of the raw material.

Should it not be practicable to induce manufacturers thus to give up their manufactures for the purpose, another course would be for the mineral producers to furnish the exhibitors with copper goods with samples of the raw material, and to induce them to place the samples with the manufactures. It will be obvious, however, that as the manufacturers in copper may be more numerous than the producers of the raw material, it would not be necessary that each manufacturer should exhibit raw materials obtained from similar sources. All such mutual arrangements, however, must be voluntary, and must be organised independently of the direct action of the Commissioners, who, whilst they will be happy to afford any assistance in their power, cannot enter upon the cost or responsibility of making them.

In the Paris Exhibition the productions of the larger exhibiting nations were separated into different classes in the buildings. For example, the machinery of the Exhibition (with some exceptions, however) was brought together; so were the chemical manufactures, minerals, &c. The Commissioners hope they will be able to adopt, and even extend, the same principle in the Exhibition of 1862, without impairing the highly interesting features which arise from national groups. How far it may be possible to carry out this principle must be determined after the wishes and intentions of the foreign countries and the British colonies are known, and the early information they may afford to the Commissioners.

The Commissioners are preparing a list of the different producers and manufacturers in the United Kingdom, who will arrange according to the classes of the Exhibition which have been already published, and as soon as this list is ready copies shall be sent to the memorialists. F. R. SANDFORD, Secretary.

MINERALS IN THE SCOTTISH HIGHLANDS.

LETTER TO HIS GRACE THE DUKE OF RICHMOND.

MY LORD DUKE,—I address this letter to you, through the *Mining Journal*, in the hope that I may possibly be instrumental, through the weight of your lordship's name, to direct attention to a subject of immense importance to the Scottish Highlands. Before the discovery and development of its rich mineral resources, the land of Llewellyn was poor indeed; but since its rugged mountains have been disembowelled—since energy, enterprise, and science have dug down into the caverns of the earth, and brought up the wealth that lay buried there—palatial structures have arisen on every hand, and princely fortunes have been reaped all over the principality. The Scottish Highlands are at present fortunate beyond all others in the days of its pride and its poverty. As a rule, the proprietors are poor and spiritless; destitute of capital, energy, and enterprise, and obstinately bent on defeating their own best interests. They have depopulated the dimensions of counties, and expatriated by tens of thousands the best blood of the Highlands,—those stout hearts and stalwart limbs whose terrific valor, victorious in every field, lent a deathless lustre to the British arms,—to create lonely haunts for the useless deer and other kinds of game; and they have left, and still leave, unwrought, unsearched for, and undeveloped those rich mines of mineral wealth which undoubtedly exist in the Highlands, and which would make the name of the man who discovered them a name to be reckoned with in the annals of the world. My Lord Duke, will you not set an example in the North? You might do so, and make a princely income more princely still. You have but recently succeeded to the ancestral honours and broad acres sufficient to make a German state. Your tenantry, I hear, hold you in high estimation. I am told you are expected to make a good landlord; and I am glad to learn that you have not distinguished yourself as a game preserver. Good, my Lord Duke; I trust I shall always be able to say the same of you. Now, on your lordship's property is a glen called Glenavon, which abounds in minerals. A practical gentleman informs me that there is there abundance of manganese and limestone, and most probably coal. He states that there is also most valuable iron ore, and decomposed wood, from which first-rate cements could be manufactured. He tells me that the one place where a very fine quality of it crops out is near Quichroy shooting lodge. There, then, my Lord Duke, is a mine of iron ore, a fertile mineral field in which to inaugurate mining operations in the North. A short branch line would bring it in connection with the railways and sea-ports, and wealth would flow in swiftly to fill to overflowing the coffers at Goodwood, West Stoke, Huntly Lodge, Gordon Castle, and Kenmure. The matter is worthy of your lordship's most serious consideration.

In reference to minerals in the Highlands, I take this opportunity of repeating that superior limestone is to be found all over the Highlands. New Elgin is built upon it; and the foundations of the Glen Rother Railway bridge, now being built, rest upon it. Near Inverness, in Strathdearn, about four miles above Freeburn, there is a whole mountain of the finest limestone, very imperfectly worked, and only used for agricultural purposes, every little farmer having his own lime-kiln. It is of the best quality for engineering and architectural purposes, setting sooner than any Newcastle lime. My informant believes there is coal in the same district; and this within eight miles as the crow flies of Inverness, and unwrought. In a future letter I shall probably favour your lordship and the public with some further information. In the meantime, I have the honour to be, your Lordship's most obedient servant, M.

Inverness, April 29.

PRACTICAL MINING—"SPALLING."

SIR,—Capt. Wasley, in his letter of April 13, seems to forget the most important point under consideration, the *invention and introduction of the spalling or cobbing machine* in the South of Ireland. He says, however, that my machine is worthless, and is quite ready to admit that my machine may be improved; and where will you find the first experiment that may not be improved? Still, I am certain that my machine answers the purpose for which it was intended,—that is, to act as a "separator," as well as a "separator," as the drawings clearly indicate; and, what is more important still, it reduced the cost, as stated in my former letter, and will cob as much stuff in a day as fifty girls. I received no aid or assistance whatever from Capt. Wasley in its construction or erection, and it was at work more than twelve months before Mr. Smith ever saw it. I created another about twelve months ago, which performs its work admirably, and this machine Messrs. Wasley and Smith never saw. I will never pirate another man's ideas and use them as my own, and would wish others to do the same. The main question, however, is—Who originated the idea of spalling and cobbing in the South of Ireland by machinery instead of hand labour? Will Messrs. Wasley and Smith attempt to say that the idea originated with them? I defy them to do so. And when I asked them, as well as many other parties, if some sort of machinery could not be introduced to save the cost of spalling and cobbing, everybody (as remarked in a former letter) had a crude plan of his own, but nobody could tell me what plan to adopt, nor could I get a practical idea from any man I spoke to on the subject; but whether my machine is worthless or not, it does its work well, and saves a vast amount of cost, which was the original object I had in view.

Allow me a word in explanation in reference to Capt. Wasley's remarks about my

machine being thrown out, &c., by Mr. Smith. My machine, as stated above, is a "separator" and "separator;" in other words, it is adapted for cobbing, sorting, or separating the stuff into different sizes; but the small wheel we had at Kenmure not being of sufficient power to drive all the gear, Mr. Smith remarked to me one day that he had seen a machine many years ago in Cornwall for breaking hard stuff, called a "dry knocker." I am not quite certain, but I think he said the "dry knocker" was erected by Capt. Robin Williams; and if I would allow him he would try and erect a small machine on the same plan. He said, and it broke stones very well, but it had nothing whatever to do with my machine; and Messrs. Wasley and Smith's "Patent Separator" for anything I know to the contrary (and about which so much has been said), may be a resuscitation of the "dry knocker." Having, I fear, encroached too much on your space, I beg, in conclusion, to state that I shall not refer again to this subject, but wish Messrs. Wasley and Smith every success with their "Patent Separator." April 27. Wm. THOMAS.

BROAD'S PATENT FOR SMELTING IRON.

SIR,—A letter under this heading, from Mr. John Onions, of Birmingham, in the *Journal* of April 20, calls for a few remarks from me to put the public right on its subject matter. It appears that in 1856 Mr. Onions took out a patent for the introduction of charcoal dust, or small charcoal, with smoke of all kinds, into blast-furnaces, through the tuyeres, in order to improve the quality of the iron, forgetting, however, or at all events not making himself acquainted with the fact that for many years before the thought entered into his mind several parties had, at different times and places, tried the same thing, and had on various occasions injected into their furnaces with the blast both charcoal dust and small coal or slack, but from the inefficiency of their apparatus or means employed, and the difficulties to be overcome by controlling the blast, it could never be carried out to any practical or commercial advantage. An apparatus is now, however, before the public by which all these difficulties are overcome.

Although I have seen the property so long since as 1845 of economising so large a quantity of small materials as have been for more than a century partially lost or thrown away, and at that time made a drawing of an apparatus for its remedy, I could not contemplate it to my satisfaction, knowing all the practical difficulties that must be removed to make it complete. In 1850, however, I did complete a drawing to my satisfaction, and made a model of an apparatus, which I have subsequently found to be more efficient in carrying out my long-thought-of hopes and views. This apparatus is of the most simple and inexpensive character, not at all liable to get out of working order, and may, with common or ordinary care, be worked for years without any repairs. This apparatus, patented in July last, the particulars of which may be seen by perusing my specification, No. 1759, 1760, which can be obtained at the Patent Office.

Belgrave-terrace, Villa-road, Handsworth, Birmingham, May 2.

MINING ENTERPRISE IN SPAIN.

SIR,—In this age of quackery, and with alchemy still in the ascendant, it is truly refreshing to have a mining enterprise introduced to us bearing the impress of a sterling adventure. I have read with much satisfaction the prospectus of the Beariz Tin Stream Company, now before the public; the reports thereon, emanating from men so deservedly popular in the mining world, and so eminently qualified to determine the merits of this undertaking, are deserving every attention and respect. Captains Dalley and Barratt are well known in Cornwall to be first-rate miners, and safe men; and I have it to contain the elements of a great success, and to be devoid of risk, the usual concomitant of mining. A passing word to the directors. Give all speculative theorists a wide berth; stick to your Cornish agents; with Dalley and Barratt at the helm you are safe to bring your ship into port.—May 2. PHILIP TITMOUTH.

THE WELSH SLATE TRADE.

SIR,—Since I last addressed you I have been down in Wales, and was much pleased to see that the frequent observations which have appeared in your valuable *Journal* on the remunerative nature of slate quarries have had the effect of bringing into existence many new companies, having for their object the production and sale of that valuable mineral. From what I remarked during my visit to the Principality, I am induced to believe that several of these new enterprises are likely to prove eminently successful, the quarries having been well selected, ample capital raised, and judicious management secured. All that seems now to be requisite is a proper amount of patience on the part of shareholders, who will, no doubt, in due time be rewarded by the declaration of handsome and continuous dividends.

At the most promising of these speculations I am inclined to place the MORGWYN QUARRY, where the works are now being carried on with great vigour, under a most energetic manager; and it needs no prophet to foretell that within two years this quarry will be highly productive, and materially assist in remedying the very great want at present felt in the market, where the demand for slates so greatly exceeds the supply. I would here observe, *en passant*, that I am not disposed to condemn all the work done at this quarry by the late manager. I consider he was perfectly correct in driving the upper level, which I regret has now been abandoned.

Of course, I visited the far-famed quarries belonging to Lord Palmerston and others, and very much gratified, indeed, I was with my inspection of these wonderful and highly remunerative works. Their valuable seams of slates said to run through the Moelwyn Mountain, which, I think, is highly probable. Apropos of this magnificent seam, I found, to my surprise, that a new quarry is being opened immediately adjoining that of Lord Palmerston and others, and which has, without any doubt, this much-coveted seam running through its entire length. The name of this quarry, which has never been leased before, is GLAN-Y-PWLL (or Pwll, as the Welsh pronounce it), and anything so promising in the slate way I never remember to have been brought out by a public company. I have since obtained the prospectus, which is perfectly satisfactory. I have the assurance of the directors that the quarry will, within two years, afford not only a highly honourable or better men of business exist than such amongst them as are connected with commercial affairs, and that their names alone are a sufficient guarantee of the genuine nature of the undertaking, and that the management of it will be first-rate.

Mr. Cooper Smith, a gentleman of the greatest experience, and one of our first authorities on slate quarrying, is the secretary or manager. The Glan-y-Pwll set is very extensive, the terms on which it is held extremely favourable, and the facilities for working and getting to market the slate, which is, of course, identical in quality with that produced at Lord Palmerston's quarry, cannot possibly be exceeded. This quarry of Glan-y-Pwll, with its unusual advantages, should in two years clear at least 15,000,000 a year. I must postpone my remarks on the Lower Talwern, the Cricketh, the Croesor, and other quarries, to another opportunity.—*London, May 2.* MERCATOR.

[ADVERTISEMENT.]

MOUNT PLEASANT MINE (MOLD, FLINTSHIRE).

SIR,—Owing to absence from home I have had no opportunity of paying earlier attention to Mr. Davies's letter of April 17, which upon perusal I find contains some few remarks, perhaps, that are entitled to explanation.

From the onset of my first letter, in reply to the anonymous paragraph, I have taken every possible care not to adduce any statement but what can be undeniably proved by facts and figures; and still, in the same paragraph, I have confined myself to no more portions of Mr. Davies's letter that are deserving of some notice, and discard the remainder as utterly inapplicable and, I am sorry to say, for the most part fallacious. The first question I arrive at, which has not before been referred to in my former letters, is as follows:—"Does Mr. Williams, in his statement of Midsummer, 1860, give the details of the monthly accounts?" Could anything be more absurd than to expect the insertion of details in a half-yearly abstract of accounts; but let me tell you that nearly four months out of this half-year belongs to Mr. Davies's management, and hence my inability to prepare so regular a statement as I could have wished. It also appears I am at fault in its Christmas account; and Mr. Davies very reasonably enquires how is it that the amount of 1281.19s. 4½d., deducted from the men for candles, powder, &c., does not appear on the other side of the account? I am sure no one conversant with mine accounts would have asked so simple a question; the deductions for materials, drawing, landing, &c., having been made in the usual manner upon the cost-book, and the net balance of the earnings only carried out into the column of disbursements. Let me inform you that this same enquiry was made by Mr. Davies at the last meeting of shareholders, and that the cost-book produced and examined, and the system fully explained to him by Mr. Thos. Evans, a shareholder and a particular friend of Mr. Davies. Now, Sir, may I ask what can be his real motive in having introduced this subject into print. Again, as to income tax, I can only say that the item of 1167, including the amount of tax paid upon royalty and profits for twelve months (thanks to Mr. Gladstone for whipping us up), every care being taken that we do not overpay. Mr. Davies further asks whether the auditors themselves signed the statements of accounts? I can only say the auditors examined all the books in the usual way, and signed their names in each, in attestation of their correctness, and Mr. Davies is perfectly cognizant of this having been done. It would be ridiculously absurd to suppose the printed statements circulated amongst the shareholders should have been signed by the auditors. In concluding these remarks, may I be allowed to ask Mr. Davies if any and what sort of an account was furnished during his management? And, again, why does he take this unnecessary and troublesome way of obtaining information, when he has daily opportunities close at hand of satisfying himself upon every point?

Mr. Davies has dealt out his phantom charges against me with a most unparrying hand, and probably forgetting his own unenviable position, to which I feel bound slightly to allude. May I ask how often have the directors and shareholders requested and pressed him to render important accounts and explanations? How many committees of investigation appointed? How many references fixed, and appointments made; and, let me emphatically ask, to what purpose? If Mr. Davies quietly submits to be prostrate under such serious accusations as he is charged with, it is no reason that he should do so, however ideal they may be; therefore, for the purpose of a thorough investigation being made into all that has been adduced, and particularly that justice be done to Mr. Davies as well as myself, I have written to the Chairman to request that he will call a meeting of directors, to be held especially to go minutely into the details of our correspondence, and have also requested that the results shall be published. I trust Mr. Davies, who is one of the directors, will not abscond himself from that meeting.

I am informed that the writer of Mr. Davies's letters resides at a considerable distance, in an adjoining county. This I can readily imagine, as I feel perfectly assured no man possessed of the abilities of the writer, and knowing the locality of the mine and the parties concerned, or acquainted with the general mining topics of the neighbourhood, could have wilfully demeaned himself by penning the misstatements of Mr. Thos. Davies.

I decline holding any further correspondence with Mr. Davies, but shall be happy to refer all questions that may arise to the decision of the directors, or to any respectable referees, and the party at fault to pay all expenses. ROBT. WILLIAMS.

Ty-Ucha, Mold, April 30.

MINERAL WEALTH OF SAVOY.—A letter from Chambers states that discoveries have been made by Imperial engineers of various rich mines, particularly of copper, in the newly-annexed province of Savoy. Surveys are being made by order of the Emperor, and thirty-six applications for grants of land have been made to the Imperial Government by wealthy capitalists since the annexation. The Prefect of the new department of the Alps has published an account of the discoveries made, showing the advantages offered by the mines of Savoy to persons of capital and industry.—*Times.*

LAKE SUPERIOR COPPER—HEAVY MASSES.—During the past two weeks the contractors who transport the Minnesota copper to the Lake have been taking down masses of extraordinary size.—Since March 16 they have hauled on sleds pieces weighing as follows:—7263 lbs., 7100 lbs., 7254 lbs., 7290 lbs., 5820 lbs., 9450 lbs., 7140 lbs., 7254 lbs., 7000 lbs., 11,150 lbs., 7145 lbs., 9600 lbs., 7820 lbs., 7850 lbs., 8000 lbs., 9725 lbs., 7420 lbs., 7400 lbs., 7370 lbs. Each of these were drawn by a single pair of horses. They also brought down, but with a four-horse team, four masses, weighing 12,500 lbs., 11,420 lbs., 10,800 lbs., and 12,650 lbs.; the latter and several of the smaller ones were from the Rockland Mine. The mass of 11,150 lbs. is the largest ever brought by a single span of horses over the road. We have here the weight of 26 masses brought down the past two weeks from two mines, the heaviest mass, from the National, having come down some weeks since. The average weight of these masses is 4 tons 1312 lbs., and the aggregate weight over 129½ tons, including, as will be seen, those only which weigh over 7000 lbs., and less than a moiety of the entire amount of minerals resolved here during the time.—*Lake Superior Miner.*

Meetings of Mining Companies.

TRELWETH MINING COMPANY.

An ordinary general meeting of proprietors was held at the company's offices, New Broad-street, on Tuesday, Mr. BRIGHTMAN in the chair.

Mr. E. J. COLE (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed—

Balance last audit	£ 948 18 1
Received less than estimated	20 14 7
Mine cost, Nov. to Feb.	1405 2 4
Merchants' bills	1023 15 11
Dues	84 4 8
London expenses	83 7 5=£3536 3 0
Call made last meeting	£1000 0 0
Ore sold, Feb.	743 17 5
Iditto, April	961 11 3= 2705 8 8
Leaving debit balance	£ 890 14 4

The report of the agent was read, as follows:—

April 29.—The engine-shaft is sunk below the 134 fm. level 1 fm. 5 ft.; lode at present worth 151. per fm. The 134 is extended east of engine-shaft 6 fms. 5 ft. 6 in.; the lode at present is yielding a little copper ore, and is improving as we get towards the winze sinking below the 124, where we have a lode worth for copper ore at least 301. per fathom, and it appears to be improving. The 134 is extended west of Cole's engine-shaft 4 fms. 0 ft. 6 in.; lode containing stones of copper ore, and it seems likely to improve in value. The 124 is extended east of engine-shaft 28 fms. 4 ft., and the lode is worth for copper ore 301. per fm., with a strong appearance of a continuance. The 124 is extended west of engine-shaft 15 fms. 1 ft.; the lode is this end has improved in the last 2 ft. we have opened on it, and it is now worth 121. per fm. for copper ore. The lode in the winze sinking below the 124, west of engine-shaft, is worth 151. per fm. The lode in the winze sinking below the 124 east is worth 301. per fm. The slope in back of the 134, east of engine-shaft, is worth 121. per fm. The slope in back of the 124, east of engine-shaft, is worth 101. per fm. The slope in bottom of the 116 east is worth 201. per fathom. We have not yet intersected the lode in the 60, west of Woodfall's, in the cross-cut driving north, west of the cross-course, but from the water issuing from the end it indicates that the lode is near. On the whole, we are gradually improving, and I do not hesitate to say that our prospects were never better, which you must judge, in part, from the great improvement in value of our copper ore, and the result of the next four months' operations will far exceed in returns the past sales for the like time, and I expect at the next meeting to give a more favourable report of this adventure.

The CHAIRMAN, in moving the adoption of the report and accounts, congratulated the shareholders upon the important fact that their ore had, during the last four months, materially increased in quality, although at present it had not decreased in hardness; the consequence, therefore, was that they were unable to make returns sufficiently large to enable the committee to declare a dividend. But while he mentioned that fact, shareholders must not forget that ground of that character invariably proved far more lasting, and improved in productiveness as depth was attained. It would be satisfactory to know that by the alterations which had been made in the pitwork by Capt. Richards—the cost of which had been liquidated—they would be able to sink the shaft considerably deeper without further expense. For that satisfactory and comparatively inexpensive arrangement, he thought the shareholders would agree with him that the greatest credit was due to Capt. Richards. As regarded the financial position of the company, it would be seen by the balance-sheet just submitted that there was an adverse balance of about 8007., including all liabilities up to the present time; but as it was more than probable the productiveness of the ground would continue to increase, and that the expenses would proportionately decrease, at the next general meeting, four months hence, it was very likely the accounts would show that a large proportion of the present debit balance had been cleared off. Referring to the prospects of the mine, he thought the report of Capt. Richards was so satisfactory and cheering that it spoke for itself; and as that report emanated from a man who could in every respect be implicitly relied upon, and whose every word was devoted to the bringing about a successful issue, not only for the benefit of the interest of the general proprietary, but also for his own interest, being himself one of the largest shareholders; when that report, he repeated, emanated from such an authority, it would, doubtless, inspire the greatest confidence among the shareholders that they had a valuable property, which would eventually produce the most satisfactory and remunerative results. As regarded the arrears of call, the sum outstanding amounted to about 4007.

The SECRETARY reminded the shareholders that at the last meeting the arrears of call amounted to 10111., and that a call was then made of 10007. The meeting left the matter in his hands to do the best he could with respect to the arrears, and when he informed them that the total arrears amounted to about 4007., shareholders could form their own opinion as to the result of his endeavours.

The CHAIRMAN said the specimens of ore upon the table, which had just been received, the excellence of which was admitted by all who had seen them, was, perhaps, the best tangible testimony that could be adduced of the gradually improving quality of the ore. Mr. COLLINGS, who had been recently upon the mine, stated that from all he saw and heard, he thought shareholders had good reason to be exceedingly satisfied with the prospects which their property presented. There could be no doubt that very soon all their difficulties would be dispelled, and that proprietors would reap a good return from their investment. It was exceedingly pleasing to find that everybody in the locality had the highest opinion of the ability and judgment of their manager, Capt. Richards.

The SECRETARY, who explained the various points of operation by means of a section, stated that the 124 east had been extended 28 fathoms, and the lode was now worth 301. per fathom, and the winze being sunk to the 134 was also valued at 301. per fathom. The 134, going under the winze, and which had been driven some fathoms to the west of the present end, presented the most favourable indications. Capt. Richards, in whom he had the greatest confidence, computed that by the alteration he had made in the pitwork they would be able to sink the shaft 20 fathoms deeper without any additional expense. The lode was cut in the shaft at about the 60, since which they had been sinking upon the lode, and it was at the present time worth 151. per fm. It was expected that the 80 cross-cut would intersect the same lode a great deal further west. It must be satisfactory to know that no adventure with which Capt. Richards was connected had he so much confidence in as in Trelweth. Capt. Richards, as the Chairman had already stated, had a very large interest in the undertaking, and his whole energies were devoted to it. To his (Mr. Cole's) mind, it was a great satisfaction to have such a manager as Capt. Richards, and it was also well to know that the mine contained an ore that was gradually improving, although they could not break it fast enough.

The report was then unanimously adopted, and the accounts passed and allowed, when a vote of thanks to the Chairman was passed, and the proceedings terminated.

NANTEOS AND PENRHUW MINING COMPANY.

The ordinary half-yearly meeting of proprietors was held at the company's offices, Bishopsgate-street Within, on Thursday,

Mr. J. H. MURCHISON (managing director) in the chair.

The notice convening the meeting having been read,

The CHAIRMAN read his report as follows:—

On meeting the shareholders at the first general meeting since the reconstitution of the company in October last, it may be interesting to draw attention to the progress made since then, both at the mine and in closing the old accounts. All the shares in the new company were accepted, *pro rata*, by the holders in the old company, with the exception of 110 shares (the holder of 100 of these being deceased), and on the other hand 1083 shares were applied for beyond the *pro rata* number, and among the applicants for these the directors had to allot at all their disposal—110. At the general special meeting of the old company, held on Sept. 3 last, the accounts to the end of July showed—

Balance of liabilities over assets	£2768 4 9
The meeting to confirm the dissolution was held on October 12, and the additional liabilities to end of September amounted to	691 12 2
The debt (of which 1171. 7s. 5d. among the assets was then stated) to be "very doubtful" has turned out bad	129 3 0
The liquidators account for charges, commission, and legal expenses in winding-up the old company	52 10 0
Total	£3624 9 11
The subsequent net amount received for ore raised to end Sept. was	353 17 4
Total liabilities of old company to end Sept.	£3270 12 7
Of which the new company has paid off	1621 6 10
Leaving	£1649 5 9
Which is made up as follows:—	
Merchants and sundry other accounts	£ 619 19 8
Loan renewed by bank	300 0 0
Debtors due in October 1861	790 0 0
Liquidators account for charges and commission in winding-up the old company	£52 10 0
Less balance in his hands	43 3 11= 9 6 1
Total	£1649 5 9
Liabilities of the new company to end of March, 1861	650 0 7
Total	£2299 6 4
The available assets, as per balance-sheet	£296 14 6
Ore sold on April 26—say	220 0 0= 816 14 6
Balance	£1482 11 10

Of which 7207. is not due till October next, and the 6191. 19s. 8d. of the old accounts is to be paid by instalments.

The only other claim is an old account, stated by Messrs. Hoppe and Boyle, the former solicitors, to be due to them, but though they have, both personally and by letter, very frequently been applied to for the particulars, they have not yet sent them in; the amount, however, cannot be large, even if really owing. I would here draw attention to the fact that the process of winding-up the old company has not been attended with any great expense or delay. No time was lost in commencing the extended operations at the beginning of November last, and since then, notwithstanding the unusually severe winter, which materially affected the progress made, a great deal of work has been done, including the erection of a new pumping-wheel in the deep adit, at Eystumtean, and the mine may now be said to be in a better state of working than ever it has been. In the deep adit at Eystumtean the length of ore ground passed through was from 15 to 20 fathoms, the richest part having been valued at from 2 to 4 tons of lead ore per fathom, for 4 to 6 fathoms. At 4 fathoms below the adit part of the lode was cut into, and valued, as far as seen, at 2 tons per fathom. The shaft is now down 10 fathoms below the adit (or a total of about 80 fathoms from surface), and will be sunk 1½ fm. more, when the lode will be cut through, and levels driven on it. It is expected that this will be accomplished in about a month, and it is a point of much interest and importance, as if the lode is found as good at that depth as there is ground for anticipating, the returns will soon be materially increased, and value of the mine considerably enhanced. In the level west of No. 2 rise, above the adit, the lode is worth from 5 to 6 cwt. per fm., and has been of that value for 7 fms.; but they are not carrying all the lode. A winze, in which the lode is worth 5 or 6 cwt. per fathom, is being sunk from the level above (Beech's) to meet this level, and the two will most likely be communicated by the beginning of June, when the sides will be stripped down, and the value of the whole of the lode proved. Below's level west is worth 5 to 6 cwt. per fm., and has been of that value for 10 or 12 fms. The slopes east of No. 3 rise, in back of deep adit, are 12 fms. long, and are being worked by eight men, at 3s. 3d. per fm., the lode being worth in places 1 ton to 1½ ton of lead ore per fathom, and averaging 15 cwt. per fathom. The slopes west of No. 3 rise are 5 to 6 fms. long, and are being stowed by four men, at 3s. per fm.,

the lode averaging 8 or 9 cwt. per fathom. The slopes in back of Rowe's level, west of No. 1 rise, are 10 fms. long, worked by four men, at 3s. per fm., and worth 7 cwt. per fathom. The slopes west of No. 3 rise are being worked by four men, at 2s. per fathom, lode worth 8 cwt. per fm.; and east of No. 3 rise by four men, at 5s. per fm., lode worth about 8 cwt. per fm. At Bwlchgwn the 30 is being driven east on No. 1 north lode by four men, at 5s. per fm.; the lode is very strong, 3 ft. wide, composed of blende, munda, spar, and spots of ore. They are expecting daily to meet with a course of ore in this level, as the end is approaching a very promising piece of ground, which is also parallel with the rich courses of ore formerly found in the south lode. At Penrhil there are 20 tributors working at 6s. 12s. to 7s. 10s. per ton. The returns from these operations above the adit are 30 tons of lead ore per month. As the true and only way to have a reasonable chance of bringing the mine to a profitable state, and as early as possible, is to work it vigorously, and at as many points at the same time as present fair prospects of success, when at the mine, on April 25 and 26, I examined the agents minutely, with a view of ascertaining whether further operations ought to be carried on, and I found that they were of that opinion, but had been unwilling to increase the costs. Now, from what I have just stated I need not remark that the increase of the costs by no means necessarily implies an extravagant expenditure, but, on the contrary, a limited outlay may really be more expensive than a larger one judiciously laid out. Indeed, I believe that the sole cause of mines not paying is not unfrequently the limited scale on which they are worked. With these views I arranged that they should cross-cut the lode near the present end in Rowe's level east, as no lode has been taken down in that level, it having been driven on the south of the lode, and also drive east of cross-cut above the long slope, which is whole to surface, on the north lode, 40 fms., and in 6 fms. they would be over the best part of the ore ground; this will add only about 301. per month to the costs. It would also be advisable before long to drive a cross-cut north of the 40, at Bwlchgwn, to cut the lode being driven on in the 30. The length of cross-cut would be about 20 fms., and it would be accomplished in about six months. There is also a piece of whole and untried ground between Bwlchgwn and Penrhil shafts, which the agents consider ought to be opened out, as the best slopes in the old mine were in that direction. The 26 cut ought, therefore, to be driven; there is some ore now in the end worth 2 to 5 cwt. per ton, carrying out the two points would incur another 301. per month. In a short time the state of the mine will most likely be much improved; but to carry it on properly, and to have a fair chance of making it a profitable concern, it must continue to be carried on at least on the present scale of working. To do this the necessary calls that may be made must be responded to punctually, and I make this remark as myself considerably the largest shareholder in the company, positively convinced of its importance to the interests of the shareholders generally, for the mine cannot be carried on unless it is attended to.—J. H. MURCHISON, managing director.

A report from the agent was also read. After some discussion the reports were unanimously adopted. Mr. John Betts was appointed auditor for the ensuing year. A vote of thanks to the Chairman terminated the proceedings.

NORTH DOWNS MINING COMPANY.

A general meeting of proprietors was held at the company's offices, Adam's-court, Old Broad-street, on Wednesday, Mr. R. HALLETT in the chair.

Mr. DUNFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed—

Copper sold, Jan.	£1377 17 3
March	1863 10 1
Materials sold	16 10 10=£1257 18 2
Balance last audit	£ 172 7 2
Mine cost, Nov. to Feb.	1908 17 4
Merchants' bills	874 13 4
Dues	159 19 8
Interest account	8 6 5= 3121 3 11
Leaving credit balance	£ 136 14 3

The report of the agent was read, as follows:—

April 30.—King's engine-shaft is sunk 8 fms. below the 50; the lode is 2½ ft. wide and although not rich, nor has it been for the last 4 fms. sinking, owing, in my opinion to its being sunk in a portion of Towan's cross-course, yet it presents most favourable appearances, and is now producing fine stones of ore, and has recently undergone such a change as to let down the water from all the levels above, even to the extreme eastern boundary. The lode is driven in the 50, and is worth 301. per fm. The winze, west of shaft 24½ fms.—the first 10 fms. through a good course of ore, not worth less than 301. per fm.; the last 14 fms. rather poor; the end is again improving, more especially in its appearance, and is now worth fully 51. per fm. The 50 is extended east of King's engine-shaft 27 fms., and for the whole drive through a course of ore; the present end is worth not less than 601. per fm. Although we have had this course of ore in this level, the greater portion of the same distance, the level above was poor; we are now near the course of ore referred to in my former reports, said to produce from 8 to 10 tons of copper ore per fathom, and to the east of which we drove over a course of ore for more than 30 fms. in length. As regards the position of the undertaking, their manager, it would be well, shall then have driven over a course of ore just 70 fms. in length. The winze sinking below the 40, east of shaft, and about 4 fms. in advance of the 50 end, is down 6 fms., and just come in under the slide, above which the lode has been poor, but is now coming into a good course of ore, and worth 201. per fm. (6 feet). This drive is quite dry, and the lode is of precisely the same character as the one in the 50 east. We are driving a cross-cut north to intersect North Trekerby copper lodes, which is in a beautiful channel of ground: we have intersected a branch producing a little tin, but this not being our object, we shall continue driving on with all possible dispatch to accomplish the objects before us. We have commenced sinking a winze below the 30, and about 8 fms. east of Bennett's shaft, on the main lode, which is down 3 ft., and the lode is worth fully 101. per fm.; this is east of Bennett's cross-course, and is a new feature altogether, and which is, in my opinion, a very important one. We have also commenced sinking a winze below the 20, east of Bennett's shaft, which is worth 71. per fm.; this is also dry. No. 1 slope is worth 401. per fm.; No. 2, 401. per fm.; No. 3, 701. per fm. In conclusion, you will observe that this mine is in every respect fully bearing out my former reports; and notwithstanding the large amount which has been laid out in erecting additional machinery, &c., and which has been paid for from the profits of the mine, our balance is now the right side of the book, and our next meeting we shall be in a position to show a respectable balance in favour of the shareholders. As regards the future of the mine, if our prospects continue as they are at present, as we are discovering much more ore than we are taking away, and which is, in my opinion, the strongest proof of the accuracy of mining reports.—F. PRYOR, manager; J. GREENFIELD, T. PEARCE, agents.

The CHAIRMAN congratulated the shareholders upon the improved position of the mine. He thought they might now with some degree of safety assume that their enterprise was about its turning point. By the accounts it would be seen that since the last meeting a profit of 3007. had been made. The costs, it was true, appeared to be heavy, but that had been occasioned by the large amount of necessary surface work which had been done, by which the mine had been placed in an efficient working condition. The report was in every respect satisfactory, inasmuch as it showed that the actual position of the property, in itself encouraging, was surpassed only by the satisfactory prospects which it presented. As regards the financial position of the undertaking, their manager, it would be seen, had stated that he expected by the next meeting the balance to the credit of the company would be increased to about 10007. Under these circumstances, their financial position must be considered as exceedingly satisfactory.

Mr. BIRDSEY thought their prospects were highly encouraging.

Mr. W. MICHELL drew attention to the announcement in the report that one of the slopes was worth 701. per fm. His object in calling attention to that was to ascertain whether there were three slopes working in the back of the 50, and whether the ore at present being discovered was kept in reserve.

The CHAIRMAN reminded the meeting that a very large amount of work had been paid for out of returns, by which the shareholders had been relieved of further calls.

The report and accounts were then adopted, when a vote of thanks to the Chairman terminated the proceedings.

NORTH WHEEL EXMOUTH MINING COMPANY.

A general meeting of proprietors was held at the company's offices, St. Helen's-place, on Thursday, Mr. R. HALLETT in the chair.

Mr. G. LIVINGSTON (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed—

Balance last audit	£ 7 14 7
Lead ore sold	361 11 8
Calls received	1331 13 10=£1701 0 1
Mine cost, Feb. to March	£ 621 16 10
Repaid advances	337 0 3
Discount upon ore bills and sundries	4 0 8
Committee	13 2 6
Law expenses	23 10 10
Bank of London charges	2 10 9
Merchants bills paid	676 2 6= 1678 3 6
Leaving credit balance	£ 22 16 7

The assets exceeded the liabilities by 3171. 17s. 6d.

The report of the agent was read, as follows:—

May 1.—In forwarding you my report for the general meeting of shareholders, to be held to-morrow, I beg to state that since the last meeting the 30, north from Hallett's engine-shaft, has been extended about 35 fms.; the part of the lode opened on has been composed of munda, quartz, &c., at times good stones of lead, varying in size from 1 to 2 ft. wide; the stratum a very light kilias, or clay-slate, and moderately easy for development. During the past week we cut the eastern side, and find another part of the lode standing about 2 ft. wide, composed chiefly of quartz, with strong spots of lead in it, but not to value. It is, however, letting out large streams of water, which makes it appear to be almost more than probable that it is the main part of the lode; this, however, we are for the present unable to prove, the air in the end being so very bad we are obliged to stop it for a few days, and put in an air-machine, pipes, &c., about which the men are now engaged. I have also in the past week had the back of the lode in the north part of the mine between the two even courses shodded or costened, which we find to be large and strong, showing splendid gossan, and containing fine spots of lead ore. I think a respectable balance a shaft to the north of Mr. A. Terry's house (say) 80 or 100 fms., to take the lode about 15 to 20 fms. deep. This can be done without any machinery, and for a small outlay, as well as testing the value of the lode in this important part of the sett. This can be done in about two months, and if followed with successful results a run of very light iron rods might be applied to our large engine to enable us to work that part of the mine at ease, which will effect a considerable saving in time, neither shall I ever be satisfied until this is done.—W. SKELVIS.

The CHAIRMAN said that upon comparing the statement of accounts just presented with that submitted four months since, it would be found that their financial position had very materially improved. At that time their merchants' bills, it would be seen, amounted to 7791., but that at the present time they amounted to between 4007. and 5007. A considerable amount of the arrears of call had been recovered, and a large quantity of lead and blende had been sold, the result of which was that their present adverse balance stood at 3171., as against 5227. at the last meeting.

Mr. DOCKER enquired of the committee of management whether they were able to form an approximate idea as to the ultimate cost that would be incurred in the development of the mine. Their neighbour, Wheel Exmouth, had called up more than 30,0007., and which sett was not so large as North Wheel Exmouth. Although he wished it to be distinctly understood that he did not complain about paying the necessary calls, he thought it would be well for shareholders to know what capital was likely to be required. He knew the committee were the largest shareholders, and that for their own sakes they would see that the utmost economy was exercised in the working of the mine, and that view he would suggest that some independent agent should be engaged to inspect the mine, to report upon its prospects, and so give some idea of the probable cost of development.

The CHAIRMAN said it was quite impossible for the committee to form an opinion as to the ultimate expenditure as it was for any individual shareholder. Upon the best information he had he year largely increased his interest, but the interesting problems—success or non-success—time only would solve. It was to be remembered that the ore ground in that district began at a very shallow depth.

The SECRETARY did not think the outlay incurred in the development of Wheel Exmouth could be taken as any criterion as to the capital that would be required in North Exmouth, if for no other reason than that in Wheel Exmouth two shafts had been sunk, one of which, after having been sunk at a great expense to a depth of 80 fathoms, was abandoned.

Mr. DOCKER said that, so far from it being his intention to disparage the property by any remarks he might have made, he could inform the committee that he had the strongest opinion in favour of the mine, believing that it would ultimately prove a valuable property. Mr. DOCKER enquired why the shaft had not been sunk during the past two months?

The CHAIRMAN said that, unfortunately, during that period they had had really no practical head, Captain Skewis having been in bad health.

Mr. DOCKER was sorry to hear that, as he believed Capt. Skewis was a very able and efficient man.

Mr. RICHARDS considered that the very worst feature in the affair was that they were merely driving without sinking. Under those circumstances it was the duty of shareholders to determine what was best to be done.

The CHAIRMAN said that the committee had considered that matter, and were taking steps by which they would be able to ascertain from time to time how the mine was progressing. Shareholders might rest perfectly satisfied that the business of the company would not be neglected by the committee; in fact, their interest was so great that they could not afford to neglect their business. At the same time, however, he would be happy to receive suggestions from any shareholder.

The report having been adopted, and the accounts passed and allowed, a call of 2s. 6d. per share was made.

Messrs. Hallett, Essex, and Richards were appointed the committee of management. A vote of thanks to the Chairman terminated the proceedings.

UNITED MINES (TAVISTOCK) COMPANY.

An ordinary general meeting of proprietors was held at the company's offices, Austin-frirs, yesterday, Mr. T. BUCKLAGE in the chair.

Mr. E. KING (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. The accounts showed—

Balance last audit	£584 9 7
Mine cost, merchants' bills, &c., Nov.	155 12 11
Iditto, Jan.	206 10 10
Iditto, Feb.	219 10 5
Water rents	8 5 0=£1174 17 9
Call	£784 10 0
Tin ore sold	220 0 0= 1004 10 0
Leaving debit balance	£ 170 7 9

The report of the agent was then read, as follows:—

May 2.—Since your last general meeting the following operations have been carried out—cut tackle and clasp plates, fixed beams, elstern, standing-lift, &c., and sunk the engine-shaft (the dimensions of which are 12 ft. long by 6 ft. wide) 12 fms. through a most congenial stratum for the production of mineral; the same divided and cased, and the men are now engaged driving a cross-cut south to cut the lodes. This cross-cut is being carried 8 feet wide by 7½ ft. high, as it has also to answer for a pit; the price for driving is 51. per fathom, estimated at month, or cut the north lode. I cannot give the distance to be about 3 fathoms, and hope it will be driven by the next setting day. The above-named work has cost about 2201., which is just above half the sum named for sinking 12 fathoms, driving the cross-cut, and 12 or 15 fathoms at the 60 to get back in tinny ground, but very little more than half the time named (seven months) had expired: 2201. includes timber and all the pitwork purchased. Only 3 fathoms 10 inches have been driven on the eastern cross-course at the 18, as the two men with six others have been engaged in securing and timbering the lobby, which takes off the water from the stamps-wheel, and conveys it underneath the whole length of the dressing-floors. This has proved a costly piece of dead work, as eight men have been constantly about it for the last four weeks. In addition to the labour cost, we have used about 307. worth of timber; however, there was no alternative, as the level was every now and then giving way on account of the very decayed state of the timbers causing much trouble, expense, and loss of time. I am happy, however, to state that it is now so near completed as to allow us to stamp by night, although there are four men still working it by night; the other two have resumed driving in quest of lead. Other than the work referred to we have done nothing on our work. Up to the last two months we had three tribute pitches working by eight men, at an average tribute of about 12s. 9d. in 11, but as they became too poor to allow wages to the tributors, or profit to the owners, one has been idle one month and another two months; the third is now being worked by three men, at 13s. 4d. in 11. So you will perceive our tribute is at present confined within very narrow limits—a small piece of ground against the eastern cross-course in back of the 48. We have sold tin to the amount of 2071. 8d., and are now preparing a parcel for sale against our next pay, computed 2 tons 15 cwt.; the highest price offered is 691. 18s. per ton; as only two bids are sent in out of four, I may yet receive a higher one, but supposing the Biscoe Company be the purchasers, the amount realised by sales of tin will be 3981. 17s. 11d. Although we can hope for very little more from the old pitches, I am confident we shall raise as much, or even more, by sinking a winze and driving the 60 end alone during the next four months as from all the pitches during the past four months, and hope to have water to stamp it. I consider sinking the shaft has improved our position 50 per cent., and will enable us in a very short time to be self-supporting. Should another 12 fms. be sunk at once, and two good backs of tin ground laid open, whence we could draw a full supply for the stamps when we have a full stream of water, I am fully convinced our mine will rank among the best paying mines in Devonshire. I, therefore, strongly recommend sinking another 12 fathoms with the utmost dispatch, sinking a winze from the 48 to the 60, as soon as the 60 is sufficiently advanced to drain the same, and driving the 60 east with a full pair of six men back to the tinny ground. In 3 weeks, and a cross-cut had been driven a few feet towards the lode, which the shaft and in the cross-cut all this, except driving east at the 72, may be accomplished by your next four-monthly meeting. As these are the points of the greatest magnitude, I think you will do well to confine operations to them at present; meanwhile, get all the tin we can from the old ground. We have at present sixteen miners, one lander, one filler, one labourer, two engineers, one whelm-man, one smith, one carpenter occasionally, one dresser, five boys, and four girls: making a total of 34 persons employed on the mine. The labourers employed in sinking are now discharged, but will be again required when sinking is resumed either in the shaft or winze. We showed you last 3 some cwt. of tin for sale this time, but our stamps have been idle for about three weeks from causes explained above. Nearly all the last month's work is now in the stone on the spalling-floors. Our engine and other machinery are in good working order.—JOHN TUCKER.

The CHAIRMAN having moved the adoption of the report and accounts, stated that the amount of work done since last meeting would, no doubt, be considered very satisfactory by the shareholders, the more especially when they compared that work with their previous management.

The SECRETARY stated that since last meeting he had visited and inspected the mine upon three different occasions, and had much pleasure in informing his co-adventurers that since the last meeting a most unprecedented feat in mining had been performed upon their property—the dump-shaft had been sunk from the 48 to the 60 fm. level in 12 weeks, and a cross-cut had been driven a few feet towards the lode, which was expected would be intersected in about 3 fms. driving. From the 48 fm. level, which was now exhausted, the returns had paid the cost of the operations for the last two years and a half. From the back of that level between 40007. and 50007. worth of tin had been returned, and from the highly mineralised character of the ground in the 60 he had every reason to believe that a much richer deposit of tin would be found than in the level above. The committee had that morning resolved that nine men should at once be put on to sink from the 60 to the 72, and he thought that those 12 fms. would be sunk in even less time than the last 12 fms. He trusted that before the next meeting both the 48 to the 60 fm. level would be opened in fine courses of ore, and that the mine would be able to produce views of Capt. Tucker—that if their present operations were carried out with vigour the United Mines, Tavistock, would rank amongst some of the best paying properties in Devon.

The CHAIRMAN, referring to the financial position of the undertaking, stated that he had been for many years connected with that enterprise, and it afforded him much pleasure to at last see a bright side. He believed that with the present skillful management their mine would soon produce profits.

Dr. MATTHEW, in seconding the adoption of the report and accounts, expressed his entire concurrence in the views expressed by the Chairman as to the prospects which their property presented.

Mr. McCALLAN, previously to taking a large interest in the company, had deemed it advisable to have the mine inspected by a disinterested agent, and had, consequently, engaged Captain Gregory, of Drake Walls, to perform that office. That report he was willing should be read for the benefit of his co-adventurers. It was of a highly satisfactory character, and quite endorsed the views expressed by Captain Tucker, and upon the faith of it he (Mr. McCALLAN) had purchased a large interest in the undertaking.

The SECRETARY then read the report of Capt. Gregory, which was as follows:—

March 20.—The engine-shaft, of good size and length, sinking by a full force of men, is down 9½ fms. below the 48, in a very favourable and highly-mineralised kilias; at the present rate of sinking they will reach the 60 within three or four weeks from this time. A cross-cut of about 3 fms. will be required to take the lode from the bottom of the

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—S. Uren, T. Hosking, May 1: Davey's engine-shaft, sinking below the 150, is without change. The 150, driving east of said shaft, on the main lode, is producing stones of ore. The lode in the 140, driving east of the above shaft, is 3½ ft. wide, unproductive. The lode in the 130, east of said shaft, is 3 ft. wide, worth 15¢ per fathom. The lode in the 120, driving east of the above shaft, is 3 ft. wide, worth 31¢ per fathom. Robert's stopes, in back of the 140, is worth 12¢ per fathom. Floyd's stopes are preparing to sink the winze in bottom of the 130. Rodd's men are about to commence a rise in back of the 130 to prove the ground between this and the 120 above. James's rise, in back of the 120, produces stones of ore, but not to value. No other change to notice for the past week.

BALLYVIRGIN.—T. De la Hunty, April 25: South Stope: This stope was partly resumed during the last week, but in consequence of wishing to get all the good-paying stuff from the arch to surface, the progress with the trial was not so great as it otherwise would have been; it is yielding a large lode of plain muncie, and still inclined to dip to the south; greater progress will be made this coming week. All the arch of ground over the 10 will be at grass by Saturday night; it has produced a fair supply of ore to the last.—Dressing Department: We have dressed and put to pile 1 ton of first crop lead, 1 ton of second crop lead, ½ ton of first crop copper, 3 tons of coppery muncie, 10 tons of plain muncie, and prepared for the crusher 2 tons of lead ore. We have shipped per *Jerseyport*, for Glasgow, 40 tons of coppery muncie and 55 tons of plain muncie.

REDFORD CONSOLS.—Capt. Mitchell, May 2: No lode has been taken down in the middle adit level, on the No. 1 south lode, since my report for the last week. The ground by the side of the lode is easier for driving. I have suspended the driving on the No. 2 south lode for the time, and have put the men to continue the cross-cut south.

REDFORD UNITED.—J. Phillips, April 30: No alteration has taken place in any of the ends throughout the mine during the past week. The stopes in the back of the 100, 90, and 80 continue to yield as last reported.

BENEFITWOOD.—J. Lean, May 2: We have completed the pit at the 40, and commenced driving north and south on the western lode, which presents promising appearances, but shall be able to say more of its character when further developed. The lode in the 30 south is mixed with quartz, muncie, and a little lead, rather undefined by the effects of an intersecting course. The men will clear and secure the 20 winze by to-morrow morning, and also the 30 ft. level north in two or three days; we shall then stop the back, where we expect to raise some tons of good ore.

BRONFLOYD.—J. Lester, May 2: The engine-shaft is down 17½ fms. below new adit. We have eight men now driving a cross-cut from the western end of the 13, below adit of No. 4 lode, to cut No. 1 lode; the distance will be about 15 fms.; the ground at present is hard, and will be so until they get clear of No. 4 lode; this cross-cut will intersect several promising branches or intermediate lodes before it reaches No. 1, these we passed through in driving up the main adit, when we got some good stones of ore occasionally; of which we sent you a sample at the end of the last week. The cross-cut is 23 fms. below where we are getting the good ore from this new lode—in the 17, west of cross-cut, here the level west is extended 10 fms.; the lode for that distance being mixed throughout with lead, and about 3 fms. of it is worth nearly 1 ton per fm. The last two have not been so good, but the ground has changed for the better, and much more easy to drive, and the price is reduced from 7½ to 3½ 15s. The forebrest is yielding a strong mixture of blue and white ore, similar to the sample sent up for assay; the result of which I am pleased to see is so highly satisfactory for silver. I have put down a tram-road in this level, and can now discharge the stuff for one-half its cost when being wheeled. I have also put a pair of men to rise and stop the bottom of the cut; the lode is mixed with blue and white ore for 6 ft. wide, yielding 12 cwt. per fm., and can be broken away at 30s. per fathom. We have put four men to open ground in the 9, west of winze, to get over the best points of the 17; this ground is favourable, and occasionally yields stones of ore.

BRYNFELIN.—H. P. Owen, E. April 30: At the present the mine contains two levels and four shafts. Level 1, marked B on the map: In the bottom a winze is sunk 3 fms., containing a string of ore, 1 ft. wide, solid, the lode itself being 3 to 4 ft. wide. This shaft or winze should be sunk for 10 fm. level, and the lode driven upon from A on the map, to meet the lode B, a distance of 20 fathoms. When this is accomplished I would advise, with confidence of success, that a level be driven on the lode under No. 2 level, which is communicated with No. 1 shaft, and should be continued under Nos. 2 and 3 shaft, which will lay open a large quantity of ore ground, the copper ore in the bottom of No. 2 level being rich, giving a produce of 30 per cent. The level is mixed with blue and white ore in an efficient state of working at 500¢, and believe before this amount is expended the mine will produce sufficient ore to liquidate all expenses incurred from the beginning, and prove itself of considerable wealth to the company. I find the returns have exceeded 500 tons of ore above the back of the adit level.

—J. Evans, May 1: The copper improves going down in the various bargains—two men sinking on the copper below the adit level; four men have finished winding the adit, to enable us to continue the tram-past to the main shaft, along the adit, to the junction east. We shall now commence driving with these men. We have two men sinking on the copper at the junction east, and have good copper ore. Two men are sinking on copper, midway between this point and shaft No. 2 on the plan. The greatest change in the lode, for the short time we have been working, is here, especially within the last three or four days. This has determined my employing two men to drive from shaft No. 2, to intersect this course of copper ore at 10 fathoms below. The driving east of adit level will also intersect it at a still greater depth. We have three men repairing dressing-sheds and making covered ore-bins, and three others doing miscellaneous work. We shall now commence sinking the main shaft; this, with driving east, will form the most important part of work for some time. From other parts of the mine we shall be raising ore. I assure you the result of the short time we have been at work far exceeds my expectation, and shall be able to send to market the 50 tons within the time stated.

BRYN GWIG.—J. Lloyd, April 30: The sinking of the engine-shaft is progressing with speed; the lode is still hard, and produces a little ore, but is not yet at the rate of 100¢, an improvement may be expected shortly. The stopes, east of the shaft, and under the 132, have much improved since last advised, and are worth at present from 2 to 3 tons per fm. The roof above the 132 west is improving, and is still worth 4 tons per fm. of stoping. The lode in No. 1 winze has been hard, and produced but little ore for the last fathom of sinking; a rib of ore about 6 in. wide is coming in at present. We are going to put men to work No. 2 winze this week, as the water is lessening, and hope to have to report a fine course of ore going downwards. The men in the 105 west are employed in crossing south to reach the heading wall, which we have not yet reached; the lode at this point is very wide, and productive throughout. The value per fathom cannot be well ascertained, as the proper width of the lode is not known.

BRYN TAIL.—James Roach, May 2: The lode in the 10 east is without any material alteration in character since last reported upon; we continue to find a great many small cubes of lead ore adhering to the hanging-wall. The stope above in the western part of the ground is improving, and present appearances indicative of our being near a good deposit of lead. The 25 cross-cut is still very hard in bottom of the drive, but the upper part of it is clay-slate. The shaft in the middle of unexplored ground is rather spare for sinking; there is a little water in it, but the quantity does not yet impede the sinking.

BUDNICK CONSOLS.—J. Morcom, May 2: The clearing out of the old mine is proceeding very satisfactorily, and the ground being laid open is eagerly sought for by tributaries at a fair tribute to the adventurers. The new lode which has been intersected in a cross-cut driven at the 12 has been laid open about 15 feet, worth about 18¢ per fathom; the said level is being driven at 31¢ per fathom. It is intended to drive cross-cuts at the deeper levels to lay open the said lode; immense quantities of new main road, and sent to market by the former work, were being sent to the pit, and I have equally the same opinion that similar results will be realized in the western ground as was achieved in the eastern part of the mine. There is another lode, about 12 fathoms further north, which is called the Great North lode, on which nothing has been done below the 17, and it is intended to drive cross-cuts immediately to intersect this lode; these side lodes are of the greatest importance to the mine. I am glad to say that the mine is opening out according to the most sanguine expectations, and as soon as the tin floors, with an additional 16 heads to the stamps (making in the whole 48 heads), are a complete working order, I have no doubt but that the mine will soon rank amongst the best dividend-paying mines in Cornwall. The engine and other machinery on the mine are of the most efficient order, and things appear to be well conducted throughout.

BULLER AND BASSET UNITED.—G. Reynolds, May 2: The lode in the shaft is from 3 to 4 feet wide, composed of fluor-spar, with spots of copper ore and muncie, and looking very promising. The lode going west in the 80 is 3 feet wide, composed of soft spar and peach, with spots of copper and muncie. In the 80 east the lode has much the same appearance. We are still forcing on these several bargains with all speed.

BULLER AND BERTHA.—T. Fox, Jun., April 29: The cross-cut south at the 45 has been driven 5 fms. 1 ft.; the ground is congenial for mineral, and favourable for progress. The 32 east has been driven 3 fms. 3 ft. 6 in.; the lode is very much improved in appearance in the last 2 fms. driving, being 4 ft. wide, composed of quartz and muncie, with occasional stones of ore; the lode is more kindly now than at any time since I have been here.

CARMARTHEN UNITED.—R. Sanders, R. Toy, April 30: During the past month we have driven the 32 north 3 fms. 2 ft. 6 in.; the 22 north 2 fms. 2 ft. 6 in.; the 22 south 4 fms. 5 ft.; stopped in back of the 32 north 9 fms. 1 ft.; sunk the engine-shaft 7 ft.; completed clatter-plat, beaver hole, and put in the beaver; put in 23 fathoms of new main road, with stays, rolls, &c.; cut ground, put in balance-bob, and other preparatory work for the new plunger-lift, which we hope to get ready to work some part of next week. Saturday last being our pay and setting-day, the following bargains and pitches were let:—The 32 to drive north to four men, 2 fms., at 51¢ per fathom. The 22 north to two men, 1 fm., at 31¢ per fm. The 22 south to two men, 2 fms., at 31¢ per fm. The 32 north is still unproductive, but the present indications are very favourable for a speedy improvement. The 22 north is producing occasionally some good lumps of lead, and looking promising for a speedy improvement. The 22 south is just as it has been for some time past—in an unsettled state. This end being a great distance from any air-way the air is very close, consequently we cannot push it as fast as we wish. A pitch in back of the 32, north of shaft, is set to six men, for two months, at 21¢ per ton for lead ore. A pitch in back of the 12, south of the shaft, is set to two men, for two months, at 71¢ per fm. for lead ore. We have also six men engaged in sending down and fixing the new plunger-lift, which is being pushed on as fast as we can get the castings from the foundry.

CASARA.—J. Harper, May 1: The lode in the 30, driving north of engine-shaft, is 3 feet wide; although it has fallen off a little from last week, it still promises good saving work for lead ore, and is a very promising-looking lode. The lode in the winze sinking below this level, north of engine-shaft, is without alteration since my last. I have suspended the sinking, and put the men to drive north from the bottom of this winze, as I consider the sheet of lead driving through at the above level is to the north of this winze, and hope to meet with it in driving in that direction. The lode we meet with in the cross-cut driving east, as named in my last, has greatly improved; it is now 2½ feet wide, with a branch of lead at the east side 3 in. wide; on the west side there is 1½ foot of carbonate of lime, with a fine lump of lead ore—a very promising-looking lode. If this be the lode which crops out at surface behind the smith's shop, which I am almost persuaded it is, it looks well for the mine, as it is not seen in any of the above levels. This lode is about 8 fms. to the east of the former lode; I calculated it at first to be 10 or 12 fms., but it does not appear to have so much underlie at this point, which will answer for the difference in the distance. I will push on at this point with all possible speed, and hope to advise you more fully on this lode in my next. I had some of the lumps of lead brought to surface, which were much admired. The lode in the winze in the bottom of the 20, north of engine-shaft, is 2 feet wide, producing good saving work for lead. I expect an improvement in this winze again shortly. In the cross-cut driving south from the dingle the ground is favourable for progress. The tribute department is without alteration since my last report. We shall sample 20 tons of lead ore in a few days' time.

CHARLOTTE UNITED.—R. Kendall, J. Pemberton, April 26: The water is drained to the bottom, and we are glad to say that the lode in the east end is 3 feet wide, worth 30¢ per fm. Our engine is working with a pressure of 80 lb. per inch on the piston. We have cleared out the cross-cut south at Trow; we are of opinion the main part of

if found equal to the 36 and 48 the mine will pay well, and leave profits. I have reported to this effect before now, and hope to see it carried out at last.—T. GREGORY.

Mr. LUCOMBE drew attention to the fact that though, as represented in the *Mining Journal*, their company was divided into 5000 shares, there were, in reality, only 3138 allotted, as the difference (1862 shares) stood in the names of the committee of management in trust for the company. Therefore, if the market value of the shares were at 30s., the mine would then be selling for less than 5000¢.

The SECRETARY said that was an important point, as he considered those shares would prove to be a valuable asset.

A SHAREHOLDER enquired how it was that, with such a fine course of tin from the adit level to the 48, the operations at the mine had not been carried on by sinking the shaft?

The SECRETARY replied that when the shaft was sunk to the 48, several of the largest shareholders, who had become very much dissatisfied with the then bad management, threw up their shares, and an order was sent to the agent that the mine must pay its own cost, and that no further money would be sent down to develop it; consequently, for two years and a half the returns from above the 48 went to pay the costs for carrying on the concern; the shaft was not sunk nor ground opened. He had much pleasure in informing the shareholders that the proprietors of the adjoining property had kindly consented to grant to the present company the sett of Rix Hill, which could be developed from the levels in the United Mines; he considered that adjoining sett a very important and valuable acquisition to the property.

The report was unanimously received and adopted, and accounts passed and allowed.

The CHAIRMAN stated that it had been seen by the financial statement just presented there was a debit balance of 170¢. Their secretary (Mr. E. King) estimated that the cost for the coming four months would be something like 780¢, and the returns of tin would realise about 400¢, so that there would be a deficit of something like 380¢; therefore, a call of 2s. per share would be ample to meet the requirements of the ensuing four months, by which time they would be down to the 70.

The SECRETARY had reason to hope that the present call would be the last required.

A call of 2s. per share was made, and a resolution was passed empowering the pursuer to take such proceedings for the recovery of the calls in arrears as he might think fit.

A vote of thanks to the Chairman terminated the proceedings.

ENGLISH AND CANADIAN MINING COMPANY.

The third annual general meeting of shareholders was held at the offices, Broad-street-buildings, on Monday.—Mr. ALEXANDER MORRISON in the chair.

The meeting was attended by shareholders possessing 1846 paid-up shares. The balance-sheet, certified by the auditors, Messrs. T. H. Gladstone and Henry Sewell, was exhibited, showing the following results:—

Freshhold property, including purchase of estate and outlay of whatever nature in the colony with a view to its development £37,484 19 7
Personal property, including plant, &c., at the mines, and cash in hand 4,559 17 6
(1859¢. Os. 5d.) 899 9 9
Preliminary and London office expenses 899 9 9

Total £42,944 6 10

Capital, 40,000¢. (less unpaid calls, 875¢.) £39,425 0 0

Interest, discount, &c. 76 10 1

Bills payable outstanding 1,870 1 3

Transfer of shares due to Benefactors 7 1 3

Month's advance due to Benefactors 8 6 8

Copper ore balance 1,205 0 6

Due to local committee of management 352 2 4

Total £42,944 6 10

The directors' report was also read; and, on the motion of the CHAIRMAN, seconded by Mr. R. PORTER, unanimously adopted. It expressed the regret of the directors that, notwithstanding the skill and energy with which operations had been carried on in Canada, they were still unable to declare a dividend. Nevertheless, whilst in 1858-9 only 722¢ had been realised by the sale of ores, the amount had increased to 1539¢. In the past year, besides a parcel of 26 tons lying at Quebec, ready for shipment on the opening of the navigation, and a very considerable quantity of ores for dressing in the spring. The original capital of the company having been all called for during the past year, and being now fully paid-up, the directors had some time since become aware that additional funds would be necessary to carry on the concern. Mr. Herbert Williams, their superintendent in Canada, had come over, at the invitation of the board, and had met the shareholders, giving them full explanations as to the present position and future prospects of the undertaking; and, the matter having been maturely considered, a unanimous vote of special meetings recently held had authorised the directors to raise a sum of 8000¢. to carry out the plans of their mining superintendent. The directors expressed their sincere hope that this sum would be amply sufficient to bring their operations to maturity.

The CHAIRMAN, in answer to an enquiry from Mr. Lindsey, explained that though they were authorised to raise 8000¢, only so much would be taken as should be absolutely necessary to bring their estates into profitable operation. He pointed out how large a portion of the capital had been expended in buildings, roads, plant, and dead works. He quoted letters from Mr. Williams, written since his return to Canada, expressing his continued confidence in the early fruition of their hopes. He added that the active spirit of mining enterprise in Canada, and the great encouragement offered by the Government, were circumstances likely to benefit this undertaking by directing the attention of mining speculators to the company's large estates, nearly the whole surface of which bore rich mineral indications; whilst, necessarily, their operations had hitherto been confined to a comparatively insignificant portion. He hoped they would be able to avail themselves of these circumstances to dispose of, on profitable terms, such parts of their property as they could not work themselves. He thought that the delay which had arisen in bringing their company into a dividend-paying state ought not to discourage them, since many mines now of first-rate value had been much longer than this undertaking in arriving at profit. He particularly instanced the Kapunda mine, which had been deeply in debt to one of the Australian banks, and only at the end of 11 years had paid its expenses, whilst at this moment it was paying 20 per cent., and its value was at 125 per cent. premium. He referred to various promising mining operations in the vicinity of their estate, especially Upton and Action, the latter of which it was stated had been recently sold to an American company for \$1,000,000.

Messrs. J. L. Bennett and Charles Felt, the directors who go out by rotation, were re-elected. The auditors, Messrs. T. H. Gladstone and Sewell, were also re-elected, with thanks to them for their services.

Votes of thanks were unanimously passed to Messrs. Herbert Williams, John Porter, F. Bennett, Jun., and the local committee of management.

On the motion of Mr. W. LINDSEY, M.P., seconded by Mr. SEWELL, the meeting declared that the Chairman, the board of directors, and their hon. secretary were entitled to the cordial thanks of the shareholders for their services.

The proceedings then terminated.

CENTRAL AMERICAN MINING COMPANY.

The annual general meeting of shareholders was held at the company's offices, Queen-street-place, on Monday.—Mr. JOHN MACDONNELL in the chair.

Mr. JOHN PHILLIPS (the secretary) read the notice convening the meeting, and the minutes of the last yearly and half-yearly meetings were confirmed.

The accounts (an abstract of which appeared in last week's *Journal*) was taken as read.

The SECRETARY, before reading the report of the directors, stated that some satisfactory letters had that morning been received, which brought advice up to a later date that referred to in the report.

The report of the directors stated that the expectations of remunerative returns were no longer limited to one mine, and from the fact of San José and Rosalia Mines yielding ore containing a large percentage of lead the smelting process might be resorted to as well as that of amalgamation in barrels. The raisings of ore had somewhat increased in quantity, but the proportion of rich ore, assaying about 250 ozs. in the ton, was less; nor had the average of that received in England equalled that of 1859. It was hoped, however, that as the working became extended, deposits of rich ore would be met with.

The raisings of ore for the last three months in 1860 amounted to 50 tons, and in January and February of the present year the raisings were respectively 60 tons, averaging 106 ozs. and 57½ tons, averaging 90 ozs. of silver per ton. The costs in England and Central America during eight months ending August, 1860, amounted to 13,639¢, and the proceeds of ore sold in England to 12,766¢, showing an excess of expenditure of 862¢. During that period, however, and subsequently, there had been a considerable addition to the stock of ore, that stock now being upwards of 1000 tons at the hacienda of San José alone. The diminished had prevented the financial position of the company from assuming so healthy an appearance as might have been expected in England, but the present time there was an excess of liabilities over assets of about 900¢, which might, however, by soon cleared off if the remittances of rich silver were moderately good.

To meet immediate demands the directors had exercised the borrowing powers given to them by the Articles of Association, believing that when the reduction works were in uninterrupted operation silver from the large stock of ore accumulated would soon be available for the payment of current costs, and for remittances to England. The directors and managers had great confidence in the prosperous results of the undertaking, and that confidence was very much strengthened by the reports which they had received during the past and present year.

The SECRETARY then read the letters which were received that morning, bearing date March 22, which was 20 days later than the date of the previous advices. That of Mr. Elley stated that the barrels were working with regularity, and most satisfactorily. The barrels had been working nine days, reducing 5 tons of ore each day, with satisfactory results as regarded the produce of silver. The mine of San Pantaleon continued to produce fair quantities of first-class ore, and the mines of San Antonio and Santa Rosalia presented the most promising appearances.

The CHAIRMAN having moved the adoption of the report and accounts, said that the letters which had just been read could not but be considered satisfactory, and it would be seen by the report that, notwithstanding the circumstances therein alluded to, their costs had not far exceeded their returns. Reference had been made to the directors having exercised the borrowing powers given to them in the Articles of Association, but he might mention that that power had only been used to the extent of 1100¢. It was gratifying to find that the barrels were producing satisfactory results, and that the operations at the mine were being conducted with vigour and success, so that they would be able to bring silver to the mint at Guatemala almost immediately, by which they would be furnished with the capital that would be required there, and also, it was hoped, remittances would be forwarded to England. The board had determined to send out the necessary materials—quicksilver and iron—which the agent at the seat of operations had asked for, and which was so necessary for the carrying on of the business of the company. If any further information were required the board would be glad to furnish all in their power.

Mr. JOHN TAYLOR, Jun. (one of the London managers), said that as the report spoke of the directors and managers having great confidence in the prosperous results of the undertaking, he might, perhaps, be permitted to state the grounds upon which that opinion had been formed. The proprietors had, no doubt, gathered from the advices which had just been submitted that the mine of San Pantaleon was continuing to open out well. It was true they could not yet speak of any decided or striking discovery, but as the mine continued to be explored good ore ground continued to be opened out. He had watched with some interest the progress of the works, and he considered it of importance that the ore ground had been reached at two significant points. A vein had been reached going into the hill eastward, and in the deep level, called Alphonso, something like a vein had been found, from which they had reason to believe they had a large extent of dry ground, which could be easily worked. The cost of the whole of the operations had been brought to England by the rich ores of San Pantaleon, which latter had been brought to England at an enormous expense; but as soon as they were able to take silver to the mint at Guatemala that expense would be saved. In addition to that, some considerable expense had been incurred in the development of the new mines. It was not, of course, reasonable to suppose that they would at once discover the rich points which had been abandoned by their predecessors; but, at the same time, it was not to be forgotten that the veins of ore in their property were easily worked. This was not an old deep abandoned mine, like some of those in Mexico and in South America; there were veins running in from the sides of mountains of great altitude, and which, therefore, were easily and inexpen-

sively developed. The latest accounts were also encouraging, inasmuch as they informed proprietors of the important fact that the silver-lead ore contained a sufficient proportion of lead to enable them to employ it for the extraction of the silver, so that they could adopt that process as well as that of amalgamation. The next important announcement was that the experiments in connection with the barrels had proved satisfactory. Although the Messrs. Taylor could not be absolutely certain as to the result, they had the greatest confidence in the success of the experiment. They had accordingly selected a highly-educated metallurgist (Mr. Beeger), whom they had known for many years, for the purpose of conducting the process of amalgamation. It was, therefore, exceedingly satisfactory to find that their ore was capable of treatment by that process, which, there could be no doubt, was the best extant. To conduct that process with success, however, two things were essential—a cheap motive-power and a large quantity of fuel for the calcination of the ores. For want of a cheap power that process in some parts of Mexico was impracticable; but at their works, even at the driest seasons, they had ample power to drive the whole of their machinery; and as regarded wood, they might, without exaggeration, state they had a superabundant supply of that very necessary material, so that they possessed two very considerable elements of success.

The report and accounts were then unanimously adopted, when Messrs. C. Morrison and J. Macdonnell, the retiring directors, were re-elected; and Messrs. R. Henty and E. J. Bunney were appointed auditors.

A vote of thanks to the Chairman and directors was passed.

Mr. HUNTER said that he had another resolution to submit, to which he was certain every proprietor would respond. It was a vote of thanks to Mr. Phillips, their secretary, for the very efficient services rendered to the company.

Mr. WRAY had much pleasure in seconding the resolution, which was put and carried unanimously.

The SECRETARY, in acknowledging the compliment, sincerely thanked the shareholders for the vote of thanks accorded to him. He had always endeavoured to do his duty to the company, and it was satisfactory to him to know that his endeavours had met with the approval of the proprietors. From the commencement he had taken the greatest interest in the undertaking, and it was, therefore, satisfactory to find that the hopes which he had from the first entertained were apparently about to be realised.

Mr. WRAY proposed a vote of thanks to the Messrs. Taylor, the managers. He had had experience of their excellent management in several other concerns, and he had the greatest confidence in their opinion.

Mr. HUNTER had much pleasure in seconding the proposition, which was put and carried. Mr. JOHN TAYLOR, Jun., having acknowledged the compliment, said that he thought they might look forward to the realisation of something substantial for the capital invested. He thought the regular features of the veins of ore in that district gave them chances of a considerable amount of profit upon a comparatively moderate amount of outlay.—The proceedings then terminated.

SALES OF MINING PROPERTY BY PUBLIC AUCTION.
This mode of disposing of an interest in mining property, whether the same consist of the mine and its machinery, or a small number of shares in a working concern, has become one of the institutions of the Mining Market; at the same time being, we are glad to see, free from many of the objectionable phases that too often accompany that popular feature of our transatlantic cousins. Mr. T. P. Thomas has now for some time past had recourse to this step, and we are glad to notice meets each time with increasing success. It is hardly necessary for us to point out the advantages that in many instances accrue to the out-adventurer by placing his interest in the auctioneer's hands, for it necessarily follows that the sale is attended by most of the mining capitalists and brokers, and, according to the quality of the stock offered, not only in a market sense, are the biddings and sales guided. On Thursday last Mr. Thomas held a public auction at Garraway's Coffee House, at which he submitted Catherine and Jane Mine, with the whole of the machinery, consisting of steam-engine, water-wheel, dressing-floor, &c. This mine has been worked for some time under the London management of Mr. J. W. Dunsford, and for a considerable period held out good prospects of success, but from the inability or unwillingness of several of the proprietors to pay up their proportion of the cost, the mine has been stopped, and offered for sale in one lot. It was bought in for 1000¢, it being, we believe, the intention to form another company to more fully develop the property. Another sett was offered, the Fron Isa Lead Mine, Mold, Flint, with the whole of the machinery, &c.: it was knocked down at the reserved price.

A number of mine shares were then offered, of which the following were sold:—149 Wm. Morris at 20s.; 3 Old Tolgus United at 10½ 2 ditto at 9½; 1 ditto at 11, 1 ditto at 11½; 1 ditto at 12½; 11 West Providence at 5s. 20 ditto at 4s. 6d., 5 ditto at 4s.; 5 Silver Bank at 4s. 6d., 5 ditto at 4s.; 25 Carnarvon at 11s.; 10 Creake at 2½; 20 Gurney at 4s. 3d., 20 ditto at 4s., 40 ditto at 4s. 6d.; 60 North Wheel Exmouth at 10s.; 30 United Mexicans at 6½—these shares are realising the Stock Exchange price; 20 Treloar at 4s. 5 ditto at 4½; 10 West Trevelyan at 4; 30 East Budnick and Mount at 3s. 35 ditto at 7s., 20 ditto at 7s. 6d.; 2 West Sharp Tor at 35½; 1 ditto at 35; 1 Providence at 40½; 80 Drake Walls at 14s., 40 ditto at 13s. 6d., 1 ditto at 14s. 6d.; 65 Feden-a-drea United at 6s. 6d.; 40 Wheel Trevelyan at 4s., 40 ditto at 3s., 20 ditto at 2s. 6d.; 10 North Minnery at 3s. 6d.; 1 South Treva Gweng at 16; 1 ditto at 16½; 20 Gernick at 2s. 6d.; 10 East Carn Brea at 8; 5 North Basset at 4½; 10 Wheel Emily Henrietta at 2½; 2 ditto at 2½; 10 Wheel Grenville at 2½; 1 ditto at 2½; 10 Wheel Buller at 10s.; 1 Rosewarne at 23½; 1 ditto at 23; 10 Wheel Edward at 2½; 5 West Fowey at 4½; 5 ditto at 4½; 5 North Gernick at 6½; 2 ditto at 6½; 50 Worthing at 13s. 9d.; 1 South Fowey at 133½; 100 Wheel Wrey Consols at 10s.; 10 Wheel Moyle at 12; 3s., 10 ditto at 2½; 10 North Dolcoath at 6s. 6d., 10 ditto at 6s. 3d., 20 ditto at 7s.; 10 New Treleigh at 21; 3s., 10 Wheel Union at 11s. 3d.; 5 Silver Vein at 1½; 31 Treweatha at 3s., 20 ditto at 3s., 30 ditto at 7s.; 1 West Caradon at 6s., 1 ditto at 6½. This sale may be noted as the most successful one under Mr. Thomas's auspices, and we are fully convinced that so long as they are conducted in their present energetic manner success will follow.

MINE SHARE DEALING—CHARGE OF CONSPIRACY.—At the Leeds Town Hall, on Tuesday, a charge was preferred against Mr. Paul Raby, Jun., and his clerk, Timothy Smith, for conspiracy to defraud Mr. Matthew Outwalke of various sums of money, amounting to upwards of 600¢, the said moneys being obtained by means of the purchase and re-sale of shares in East Reliance and South Wheel Lelure. The prosecutor made proofs of 30¢ and 75¢ respectively, but contends that he is now 647¢ out of pocket through "false representations." There was another charge against Mr. Raby for obtaining a bill of exchange for 100¢ from Mr. Francis Hunt, and it was intimated that there would be other charges also. The case was adjourned to May 13, the prisoners offering bail, themselves in 800¢, and two sureties in 150¢.—[This matter is referred to in our City Article.]

VIRGINIAN SILVER.—A very superior quality of white metal, to which this name has been given, is at present being manufactured in large quantities by Messrs. John Yates and Son, of Birmingham. The peculiarity of the metal is that in the process of mining and smelting, the most of the silver is reduced to a fine state, and is not generally used in the manufacture of German silver added—the result being an alloy of excellent colour, and great reflecting powers. The grossy feeling so common in the commoner description of German silver is entirely absent in Yates's metal, and the vegetable acids used in the preparation of food are said to have very little effect upon it. It seems that the new metal does not offer the objections too often urged against the ordinary German silver, in which the colour of sterling silver is closely imitated—that it is too brittle for general purposes. Its malleability is all that can be desired, and it is very sonorous.

TREATING LIGNITE.—An invention has been patented by Mr. Rees Reece, of Llandilo, which consists in effecting the burning and distillation of lignite and certain bituminous mineral substances in a furnace by the aid of a blast, so as to obtain inflammable gases, tar, and other products. From the tar and other products paraffine and paraffine oils may be separated. The blast-furnace which it is proposed to employ may be suitable to those ordinarily used for smelting purposes, and may be surrounded by the outside with water for the purpose of reducing its temperature. A cover-plat is fitted on the top of the furnace, to which a suitable feeding hopper is fixed, provided with a closing door, which is kept shut during the process of distillation. The furnace is connected by suitable pipes or passages with condensers and scrubbers for cooling down and purifying the gaseous products of combustion, whilst the other products are collected in the hydraulic mains, condensers, and scrubbers of the gas apparatus. The condensers consist of vertical pipes disposed in groups, and connected by branch pipes, and the scrubbers are vertical chambers, provided with several layers of small stones or coke, supplied with water from above by means of a float-valve and water distributor. They may be cleaned by blowing steam through them to remove the tar.

NOVEL MODE OF GAS-MAKING.—An invention was provisionally specified by Mr. H. J. Standley, of Pall Mall East, which relates to the treatment of the nitrates or other compounds of soda, potassa, and other alkaline salts, and also of the residue which results from the extraction of the oxygen gas therefrom; and this he effects by combining (mechanically or otherwise) with the salt employed (in the retort) a metallic base, as iron, zinc, or other metal, and also in passing the oxygen gas evolved from the salt through a liquid or solution of the residue remaining after the salt has been deprived of so much of its oxygen as will be disengaged by a moderate heat (which residue he obtains from a previous charge), by which it is freed from other gases which have passed over with it from the retort, and which latter, combining with the solution, forms a precipitate (the nature of which is dependent upon the character of the metallic base employed in the retort), which, after having separated it from the liquid part of the solution, he converts, by working and filtration, into a useful pigment. And he further causes the liquid portion of the solution which contains alkaline matter to evaporate, from which he obtains a caustic alkali. This operation may be repeated for the continuous production of the products mentioned. He further effects the complete purification of the oxygen gas, when the production of the two products before named is not required, by simply dissolving the product of the evaporated solution last named in water, through which he passes the oxygen gas evolved from the salt, so that any nitrous or other gaseous products passing over with the oxygen gas may be arrested in its passage to the receiver; and the residue left in the retort he treats as before stated, thus obtaining the products and the oxygen gas abundantly and economically.

TRACTION-ENGINES.

our south lode is still to the south of the cross-cut. We intend to drive this cross-cut by three men and three boys, and to drive the 25 west of the cross-cut, and to see where the branches come together. The stumps are cutting down the shaft as fast as possible, and the hope is that it completed to the 15 this month. No change in any other part of the mine since last week.

COLLACOMBE.—S. Mitchell, May 1: During the last month the old engine-shaft has been sunk 1 ft. The 96 west has been driven 5 fms. 3 ft., and the lode continues without alteration; the winze in the bottom of this level has been sunk 4 fms., making altogether 8 fms. 4 ft. below the level, and the lode for the whole depth 3 tons of good copper ore per fm.; 30 fathoms have been cleared and secured in the 62, east of Morris's shaft. There is no alteration in any other part of the mine worthy of notice. The following bargains were set on Saturday:—The old engine-shaft to sink at 12s. per fathom; the 96 to drive west, at 4s. per fm.; the winze to sink in the bottom of the 96, at 6s. per fm.; the 62 to drive east, at 2s. per fm.; the 60 cross-cut to drive north, at 4s. per fm.; the 30 to drive west, at 3s. per fm.

CORNUBIA TIN.—Wm. H. Gray, April 30: Except in respect to the engine we are almost in working condition, but as the nozzles are not delivered it will be impossible for us to move by the pay-day. To get this far, however, great perseverance has been necessary on the part of the workmen and others on the spot, all of whom appear to share the common wish that the shafts should be got down with every possible dispatch, in the full conviction that this will make a standard mine for that which has hitherto been a neglected district, thus affording employment to a population in want of a concern making regular returns rather than the investment of money for market purposes or of limited duration, so as only to prejudice future attempts. We have the best prospects before us, and the improving state of the tin market encourages still further to an effective realization of the objects set out, and upon the proper execution of which our hopes of success very much depend. Relying on the opinions of those who know the old shaft, I think we shall get down to the 40 cheaply and rapidly, and then if we have power to keep drawing the stuff from the several levels at and above this point, it will not be long before new ground will be reached, and such stretch made upon the lodes as will justify the erection of well-constructed reduction machinery and dressing appliances for regular returns. After the starting of the pumping-engine (50 inch) I shall have several suggestions to lay before the directors in furtherance of all these objects, but it is well to confine our attention to the main feature first, and all the others will follow in regular succession.

CRANE.—H. Skewis, April 25: Since the last meeting the 70-in. cylinder engine has been erected, the house water-lift fixed, the main-rope completed to the adit level, and 10 fms. of 15-in. pitwork sent down below the adit. The engine was set to work last evening at 4 o'clock, and the water is now forked 8 fms. below the adit; in eight or ten days more we expect to see the 20, when, if the information given be correct, four or five pitches will be set on tribute, and by the next account we hope to see the bottom of the mine. The engineers have begun to put in the steam-caps, which we expect will be ready in four weeks from this time, and while they are about this engine the shaftmen will put in the skip-road, and case and divide the shaft to the 20. The cross-cut south of Bejawa's shaft is driven 25 fms., and from the dailing there are 12 fms. more to cut the cauter lode. If the ground continues as it is, we expect to cut this lode in two months, and, from the appearance of the ground, we are daily expecting to cut a branch. If the statements given be true, when this mine is in for to the bottom, levels cleared, &c., we may expect to sample about 20 tons of copper ore per month, worth about 10s. per ton.

H. Skewis, May 2: We have cut the branch in the south cross-cut adit referred to in my report of April 25 1 foot; we are not yet through it. We have several fathoms to drive to cut the cauter lode. The steam-whim is getting on fast; the loading for the captain will be completed on Saturday.

CROWLWIM.—J. Beach, May 2: In the adit level west, on course of the lode, we have some pieces of lead, and frequently lead intermixed in the fissures, but not yet good enough to value; the lode here is similar in every respect to the lode in the 10 east at Bynatal.

CUDDRA.—J. Webb, May 2: The engine-shaft is sunk 3 fms. 1 ft. below the 90, and the pumps fixed; the part of the lode we are carrying is 3 ft. wide, 2 ft. of which is soft white spar, mixed with black copper ore and muddle; the other, nearly 1 ft., is a good lode of black and grey copper ore; the last 3 ft. have very much improved. The copper stops in back of the 90 and 90 are yielding a fair quantity of copper ore. We have commenced dressing a new parcel of better priced ore than what is now offered for sale. The 60 west, to which the tin ground, is favourable for driving, in a large gossan; these men will drive 10 fms. this month. In the 46, opening out under the tin lode, I reported before that we shall not be ready to take down the lode in this level for some weeks. The 30 is being driven west in easy ground, at 3s. per fm. The stopmen behind the 30 end are cutting out ground under the lode; the lode is now cut through from wall to wall 12 fms. long, and will now come down very speedy. So far as we have proved the lode here it is worth about 1 cwt. of tin per 100 sacks, and, being 6 ft. wide, will come very speedy; it must all pass through the stamps. In the 20 west we have easy ground, driving in the fissures under the lode, at 5s. per fm.; behind this end we have a party cutting out under the lode. The 10 is very favourable for driving west under the lode; we have taken down a large piece of the lode, 6 ft. wide, in the back of this level, and have got it cut through from wall to wall; it is now in a good position to be raised in large quantities at easy cost. So far as we have proved the tin lode it improves as we extend west. The run of tin ground the ancients worked on shallow is still before our west ends, which are being hastened on as fast as possible in that direction.

CUMBERLAND BLACK LEAD.—J. Dixon, April 26: We commenced this week cross-cutting from a lower stage, Rhoden's, to intersect the waddy pipe where we are now sinking; this will be much less expensive. Thompson's pipe is enlarged, and I expect it will produce a larger quantity of wad and finer in quality.

CWM ERFIN.—April 30: The lode in the 45, going west of engine-shaft, is 3 feet wide, of clay-slate, quartz, copper ore, and lead ore disseminated throughout—a very strong, kindly lode; the lode in the same level, going east of boundary, is 4 feet wide, worth from ½ ton to 1 ton of lead ore per fathom. A new stop has been set over the back of this level about 90 fathoms east of the cross-cut, and yields 15 cwt. of lead ore per fathom; the lode in the 45 goes over back of the same level, 35 fathoms east of cross-cut, is 4 feet wide, and yields ½ ton of lead ore per fathom; the lode in the 45 goes over back of the same level, 25 fathoms east of cross-cut, continues to yield ¾ ton to 1 ton of lead ore per fm. The lode in the 32, going east of boundary, yields 1 ton per fm.; the lode in the stop over back of this level, 90 fathoms east of cross-cut, yields 12 cwt. of ore per fathom; the lode in the stop over back of same level, 80 fms. east of cross-cut, yields 15 cwt. of ore per fm. The lode in the 20, going east of cross-cut, yields 1½ ton of ore per fm.; the lode in the stop over back of this level, 90 fathoms east of cross-cut, yields 2 tons of ore per fathom; the stop in back of the same level, 80 fathoms east of cross-cut, is now at the required height for the 10. The men are now clearing their stuff and putting in timber for carrying the road. The lode in the stop over back of the 20, about 20 fms. east of cross-cut, is 2 yards wide, and will turn out 8 cwt. to 10 cwt. of lead ore per fathom. No alteration in any other part of the mine to notice.

DEVON NEW COPPER.—P. Hawke, May 1: In sinking the engine-shaft below the 68 fm. level the lode takes a more vertical dip. We hope to reach the 78 in four weeks, when the cross-cut into the lode will be speedily commenced. In the cross-cut into the great north lode, at the 68, we have met with a leader of muddle and rich spots of yellow copper ore; as regards indications nothing can excel it. The cross-cut into the great north lode east, at the 68, comprises spar, prlan, and muddle. We have not succeeded in letting this bargain since last Saturday, when the setting price was objected to, but hope it will be contracted for shortly. The proceedings in every other department are going on well.

DULTA.—J. Martyn, May 1: We are getting on fast with the cross-cut to Dyer's lode, and have beautiful ground. From the favourable indications we have every reason to believe this will prove to be a good tin lode. We are clearing up the south shaft, on Blatt's lode, where we had some copper work, worth from 3 cwt. to 4 cwt. tin per 100 sacks. This shaft is for the purposes of ventilation and proving the lode. We shall sell another parcel of tributors' tin on Friday. We are in daily expectation of a great improvement in the mine.

DYFNWGM.—E. Davies, April 30: We have gone on wonderfully well during the past month, considering that it has been dry and frosty at nights nearly throughout. The best criterion of the mine is the ore dressed. During the four weeks we have got in upwards of 40 tons. We have during the last three months been dressing between 10 and 11 tons a week. We shipped per *Quarrymaid*, yesterday, about 36 tons, the bill of lading for which will be with you the same post as this. We have 6 or 7 tons left for next shipment. We intend changing roller-shells to-morrow, so as to be prepared for more work when fresh water comes.

EAST ALFRED CONSOLS.—H. Skewis, May 1: The cross-cut at the 70 is driven south 10 fms.; ground favourable. The south lode in the western end at the 50 is from 2 to 3 ft. wide, and yields 200 lbs. of copper per ton. The lode in the 70 is looking better, worth 10s. per fm. No other change to notice in any part of the mine since last report.

EAST CARN BREA.—Thos. Glanville, May 1: We had an accident this morning, having lost the bottom clack of the new plunger-lift under water; we are now preparing to drop a side lift to fork the water. There is nothing new in the levels to report on this week. Ore sampled from the south lode on April 24, and assayed on the 26—56 tons, produce 7½.

EAST DEVON GREAT CONSOLS.—T. Richards, April 30: The lode in the 40 west still continues to produce good stones of copper ore, a large promising lode, and in good ground for driving. The sinking of the engine-shaft progresses favourably.

EAST GUNNIS LAKE AND SOUTH BEDFORD.—J. Phillips, May 2: The lode in the 36 east is 2 ft. wide, and worth 3 tons of ore per fm. We are happy to say that the lode in the winze and stoper never looked better than at the present moment. The ground in the cross-cut south continues much the same. We are still driving by the side of the lode in the 24 east. The lode in the deep adit level is 3 feet wide, composed of muddle, peach, and good stones of ore. Gard's shaft is squared down within 6 feet of the back of the adit level; the lode in which continues much the same as last reported.

EAST PROVIDENCE.—T. Uren, April 30: The ground in the new shaft sinking below the surface is a little more favourable for exploring, and we expect to effect a communication with the rise in the back of the adit in about four or five weeks. We have commenced to clear up some old workings in the granite range at the southern part of the sett. We shall state more particulars about this point in the next report.

EAST ROSEWARNE.—J. James, April 27: More water is issuing from the 55 cross-cut than usual, and the ground a little improved for driving. In the 43 east the lode is 1 foot wide, and worth towards the bottom of the level about 15s. per fm., but not so good at the back; a very promising lode. In the 43 west the lode is 1 ft. 6 in. wide, producing stones of ore. The branch north of the lode is yielding some good ore, but making further apart in going west. The 33 is without change to notice. King's shaft and the 22 cross-cut north of said shaft are progressing favourably. There is no particular change in the tribute department.

EAST TREFFUS.—J. Pope, May 2: Since my last advice we have intersected Trellawny lode in the 38 cross-cut, north of Smith's engine-shaft, and find it to be about 2 ft. wide, composed of peach, quartz, and stones of copper ore; the appearance of this lode gives me reason to expect an early improvement as we open east and west on its course. In the 58, west of engine-shaft, on Smith's lode, the lode is 18 in. wide, unproductive. In the 34, east of the cross-cut, on Trellawny lode, the lode is 2 ft. wide, yielding good stones of copper ore. In Trellawny's flat-rod shaft, sinking below the 30 (from surface), the lode is 2½ feet wide, containing stones of copper ore.

EAST WHEAL FALMOUTH.—Wm. Hancock, April 30: Since my last we have opened out the ground in the adit level under the new engine-shaft, and the men are now engaged raising against it; present price, 4s. 10s. per fm. We hope to effect a communication by the latter part of May month. No other change to notice.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennett, April 27: The engine-shaft to sink below the 25, by twelve men, at 25s. per fm., which is now 7 fms. 4 ft. below that level; the lode being 3 ft. wide, and which we estimate to be worth full 30s. per fm. for copper, and 6s. per fm. for tin for length of shaft, and which is as pretty a lode as any miner can see at the depth. The 25 east, to four men, at 4s. 10s. per fm.; the lode being small, but we think, from the features it is presenting, that it is increasing. The 25 west, to six men, at 5s. per fm.; the lode being 3½ ft. wide, of peach and prlan, with good stones of ore, partaking of precisely the same character the lode did in

the shaft, previous to the discovery, and which we are of the opinion is going over a good run of very ground; it is worth about 8s. per fm. for tin, but we can hardly value it for copper, although the appearances are of a high order.

EAST WHEAL RUSSELL.—J. Goldworthy, May 1: Homersham's Shaft; In the cross-cut in the 110 east, driving north, the ground is favourable for progress. The 100 east the lode in the south part is 3 ft. wide, and, peach, and muddle unproductive. In the 100, east and west of Davis's cross-cut, on the north part of the lode, the lode is 2 ft. wide, composed of capel, peach, prlan, with stones of green carbonate of copper ore, not sufficient of the latter to value. In the stopes in back of the 100, east of Oat's No. 1 winze, a part of the lode has been taken down, worth 12s. per fm.; in the stopes east of Oat's No. 1 winze the lode has been taken down, which is worth 14s. per fathom; the stopes in back of the 100, east and west of Oat's No. 2 winze, are worth 9s. per fathom. The stopes in bottom of the 88, east and west of Benney's winze, on the north part of the lode, is worth 20s. per fm.; the stopes in back of the 88, on the north part of the lode, is worth 20s. per fm. The lode in the 88 east is 4 ft. wide, composed of peach, peach, muddle, and good stones of ore. The lode in back of the 77, west of John's rise, will produce ½ ton of rich ore per fm. The lode in the rise in back of the 66 is large, and producing rich stones of yellow copper ore.

J. Richards, May 2: Homersham's Shaft: In the 110 cross-cut north the ground is favourable for progress, 3½ fms. having been already driven. In the 100 east, on the south part of the lode, the lode is 3 ft. wide, and consists of quartz, muddle, and peach. In the 100 east, and east of Davis's cross-cut, on the north part of the lode, the lode is 2 ft. wide, composed of capel, quartz, and prlan, and although not yielding ore of any marketable value, produces occasionally good stones of green carbonate of copper. In the stopes in back of the 100, east and west of Oat's No. 1 winze, the lode is worth 12s. per fm. In the stopes in back of the 100, east and west of Oat's No. 2 winze, the lode is worth 10s. per fm. In the stopes in bottom of the 100, east and west of Benney's winze, on the north part of the lode, the lode is worth 20s. per fm. In the stopes in back of the 88 the lode is also worth 20s. per fm. In the 88 east the lode is from 3 to 4 ft. wide, and yields good stones of ore. In the stopes in back of the 77 east, west of John's rise, the lode is worth ½ ton of ore per fathom. In the rise in back of the 66 east the lode is 5 ft. wide, and yields stones of ore of rich quality.

FRANK MILLS.—J. P. Nicholls, J. Cornish, May 1: The 84 north is looking a little better for ore than when last reported, and every attempt we drive appears to be still improving. The winze sinking in advance of this end, in the bottom of the 72, is looking a shade better than last reported, and the lode appears likely to hold down moderately productive. The cross-cut east, in the 72 north, has gone through the lode, which is unproductive in value. The same remark will apply to the cross-cut west. The 60 north is without any change to notice. The same level, north and south, on the east lode, still yields a little lead ore, but not enough to value. No 1 branch, in this level, going north, has become smaller, and will not yield so much ore. The southernmost stopes, in the back of the 60 north, is looking well, and will yield 1½ ton of lead ore per fathom. We are engaged at present filling the other stopes—the north one, in the back of the 60, and that in the back of the 45, with attle from surface; hence there is no change in them since our last. We are making as good progress with our wide still in the back of the 45 as it is possible to do. We have no other change in the mine worthy of remark.

FURSDON.—J. Hampton, J. P. Daw, April 30: The ground in the 21 west is more favourable, and the end is producing stones of ore. The 11 east is looking a little better, there being more ore in it. Barrett's stopes are finished, and we have put the four men to sink a winze in the bottom of the adit over the 11 east. The cross-cut driving south in the 11 west is still in the lode, which is all saving work; the same remark applies to the slide now being taken down in this level.

GARDEN MINE.—N. White, May 1: We have set the 12 to drive north of the engine-shaft by two men, at 40s. per fm., and south by two men, at 35s. per fm.; the lode has a very kindly appearance. Thomas's lode, at the adit level, is driving by four men, at 6s. 10s. per fm., and is worth 15s. per fm. The shaftmen are at present engaged putting in skip-road, and preparing to resume sinking. We are making very satisfactory progress in erecting the engine, and expect to get it to work in about three weeks.

GARRETT.—W. Sandoe, May 1: The lode in the 20, west of engine-shaft, is 2 ft. wide, composed of clay, calamine, &c., with a mixture of lead ore, and is likely to improve. In the 20, going north from engine-shaft, towards the old lode, there is a change in the ground lately, from which I calculate we are not far from the lode; this, however, will be proved in a very short time. In the new shaft sinking below the 15 there is no change worthy of notice since my last report. The sinking, &c., progresses satisfactorily.

GAWTON COPPER.—G. Rowe, April 27: Our present prospects in the 96 west are of a cheering description; the lode is 4 ft. wide, composed of quartz, prlan, and muddle, with good quality yellow copper to the amount of 1 ton per fm., and showing every indication of improvement. The stopes in bottom of the same are worth 2 tons per fm. The stopes in back of the 50 is worth 2½ tons of ore per fm. The lode in the stopes in back of the 24 is not looking quite so well, worth 1½ per fm. We sampled yesterday March and April ores, computed 414 tons, on the 24th inst. sold and shipped 24 tons of muddle to Messrs. Morewoods, of Plymouth.

GERNICK.—Capt. Carkeet, May 2: Spencer's engine-shaft is now sunk to the 30; we shall this week sink about 3 feet for ore, and immediately commence driving on the course of the lode in this level. The lode in the bottom and ends of the shaft, where we shall commence driving, is from 2½ to 3 feet wide, composed of quartz, and containing large quantities of muddle, a very promising lode for copper ore, though not to value for that mineral at present; a large extent of ground can be opened on this lode for a small amount of money, and I have no doubt good results will be realised. There is nothing new discovered in the cross-cut north of the 20 since my last report.

GLAN-Y-PWLL SLATE.—M. Roberts, May 2: I have this day visited your quarry, and am glad to say the rock has improved within the last fortnight more than since the commencement of operations, and there is no doubt of its continuance. This is the opinion of several practical quarrymen who have visited the quarry this week. I have gone over the ground with Richard Owen to fix upon the best place for the erection of the machinery that will be necessary for the sawing and planing of the slate; also to fix upon the best place to run down the incline for the main line of rail to Portmadoc. The tunnel is now driven 68 yards into the vein.

GREAT CARADON.—F. C. Harper, April 29: In the 40 cross-cut, driving north of shaft, we have just intersected a large spar course, carrying muddle, underlying north; this end is wet and troublesome for driving. During the past week we have suspended the driving of the south cross-cut, and placed the men to drive west on the lode we intersected in this place, named in my last letter to you. I find it varies from 6 in. to 1 ft. wide, with very regular and well-defined walls, composed of muddle, peach, quartz, and spots of copper ore, letting out a quantity of water. I intend driving in this direction on its course a few fathoms, and then resume the driving of the cross-cut further south, to make sure whether there is any more of the lode standing in that direction.

GREAT CRINNIS.—J. Webb, May 2: The engine-shaft is sunk 10 fms. 3 ft. below the 100; the lode is 5 feet wide, of a very hard character, spotted with copper. The lode in the 100 east is without much alteration; in the last 3 or 4 fathoms driving the ground is favourable for driving. In the 100 west we have cut into the lode 5 feet wide, containing good stones of ore. The stopes in back of the 90 are yielding a little ore, but only a few feet east and west of the shaft. The ground in the 90 cross-cut is without much alteration.

GREAT NORTH TOLGUS.—J. Dale, May 1: The lode in Wheal Mary shaft, recently cut, is upwards of 18 in. wide, composed of blende, spots of lead, and rich copper ore, the appearance of which altogether is such as any miner would pronounce of great promise. Every fathom we sink it is improving. In the course of another week I hope to be able to report something still better, and will forward every particular.

GREAT ONSLOW CONSOLS.—G. Rickard, April 30: There has been no lode taken down in the 122 west for the past week. The ground in the 122 east has improved. The lode in the 107 east is very nearly the same character as for some time past.

GREAT RETALLACK.—W. H. Reynolds, April 27: The state of the mine for blende is much the same as last reported. At the 35 we have a leader of quartz 10 or 12 in. wide, with spots of lead in it, and as it is enlarging in going down we hope it may lead to something better. We expect now to make good progress in sinking below the 35, and at present are only paying 3s. 10s. per fm.

GREAT SOUTH TOLGUS.—J. Daw, May 1: The lode in the 112, west of Lyle's shaft, is 2 ft. wide, producing some good copper ore. In the rise in the back of the 100 west the lode is 1½ ft. wide, producing 1 ton of ore per fm. In the 40 west, on south branch, the lode is 6 in. wide, producing 1 ton of ore per fm. The lode in the 40 west is 2 ft. wide, producing 1 ton of ore per fm. The tribute pitches are looking well.

GREAT TREGUNE CONSOLS.—J. Spargo, May 2: I have been this day underground, and beg to say the lode in the 89 end, driving west of Hobler's shaft, is still of a very flattering nature; the lode is producing good saving work for copper, and has every appearance of a greater improvement in a short distance driving, at least in one of the south branches will intersect the lode, and I hope then a good course of ore will be discovered.

GREAT WEST SETON.—H. Cowling, May 2: I have employed the men this week to break some of the muddle from the bottom of the adit level; the lode is 3 ft. wide, and will pay well for working. I fancy, too, there is some silver in the lode, and it improves in appearance as we get down. I have measured the length and breadth of the sett, as requested—length, 640 fathoms; breadth, 450 fathoms. I have also measured the distance of the lodes seen in the adit level—the nearest to the main lode is 24 fms. north; the main lode underlies north 20 in. In a fathom, and the next to about 1½ fathoms; south it is about 2 feet wide; this, as the other two, is composed of a great deal of prlan, some gossan, and spar. No 2 lode, from the main lode, is distant from No. 1 lode 60 fathoms, and underlies 2 feet south in a fathom. No. 3 is 2 fathoms; this has the greatest dip, and like the last two are the lode, only split by a horse of killar. The whole of the lodes are available by the shafts already sunk, and it is likely that we shall make good profits out of the muddle till we get down on the copper.

GREAT WHEAL ALFRED.—W. Bugelhole, J. Delbridge, May 1: There is no apparent change in the north part of the lode in Copper House shaft since the last general meeting. The lode in the 220 west is worth 25s. per fm. We have suspended driving this end, in consequence of the air being bad, and put the men to rise against No. 1 winze, to communicate with all possible dispatch the rise with the winze for ventilation. The rise in back of the 210 west is not yet communicated with the 200; we expect to do so by to-morrow evening at 6 o'clock. The lode in the rise is worth 6s. per fathom; the principal part of the lode is still standing north. The lode in No. 1 winze is worth 16s. per fm. The lode in No. 2 winze is worth 6s. per fathom. There is no change to notice in the stopes in back of the 210 west, except in No. 5 and No. 8; No. 5 stopes is worth 3s. per fm., and No. 8 is worth 25s. per fm. There is no material change to notice in the 160 cross-cut south.—South Lode: The lode in No. 1 stopes, east of the winze, in bottom of the 137, west of Copper House shaft, is worth 17s. per fathom; No. 2, is worth 13s. per fathom.

GREAT WHEAL MARTHA.—H. Rickard, May 2: The lode in the 40, west from engine-shaft, is 3 ft. wide, yielding good work for copper ore; it is much improved during the past week, with every prospect of a further improvement; in the same level east the lode is exceedingly promising, presenting every appearance of making a fine course of ore at a deeper level. The ground by the side of the lode in the 30, east from rise, is still good for driving, and the men are making good progress. The lode both in the 30 west from Thomas's shaft and the rise in back of the same level is without alteration since last week—worth 15s. per fm. The tribute department is much as usual. The masons are getting on well with building the blacksmiths' shop. I hope to sample at Calstock Quay, on Monday next, about 160 tons of copper ore.

GREAT WHEAL YOB UNITED.—T. Gill, F. Francis, S. Harris, May 1: In the 142, driving east of Metal shaft, the lode is from 3 to 4 feet wide, worth about 20s. per fm. In the 142, driving west of Metal shaft, the lode is about 4 ft. wide, and worth 15s. per fm. In the 132, driving east of Metal shaft, the lode is about 3½ ft. wide, and worth 12s. per fm. In the 132, driving west of Metal shaft, the lode is 4 feet wide, and worth 10s. In the 122, driving east of Metal shaft, the lode is about 1½ ft. wide, and worth 40s. per fm. In the winze sinking below the 132, east of Metal shaft, the lode is 4 feet wide, and worth about 10s. per fm. Ivey's shaftmen are making good progress in enlarging the shaft below the 132, and in the case of a few months, this will have the greatest portion of the water drawn through this shaft from the 100. The Metal shaftmen are engaged in fixing a new lift in the 142, which will take them about

a fortnight, when we shall be in a good position to sink the shaft below, as the greatest portion of the water is coming out at the 142. All our machinery is working very well. Our stopes in the 132 are looking much the same as last reported.

GROSVENOR.—B. Lloyd: The 40 yard level west produces good stones of lead ore. In the dump in the 65 yard level west we are on a bar of hard ground, and it will be necessary to sink through this to the 85 yard level, for the purpose of getting a current of air to ventilate the mine. The roof in the 65 yard level west is producing good dressing stuff. In the 65 yard level east we are getting a few stones of ore. The lode in the 85 yard level is 3 ft. wide, and ribs of limestone 6 in. thick appear in the brown shale. I have put two men to work in an old shaft on the New Rake vein, where there is a good lode to be seen, 3 ft. wide, and a few spots of ore appear in the spar.

GWYDYR PARK CONSOLS.—Captain W. Smyth, May 2: There has been no lode taken down in the deep adit this week. I have set to the men to drive 2 fathoms, at 8s. 5s. per fm., the ground being much improved since last setting.

HARWOOD.—J. Race, April 26: The cross-cut is set to two men, at 80s. per fathom. The string we are driving in is bending a little to the south, and we have cut a small string or branch this week; these are indications, I think, that we are very near the vein. I think we are likely soon to make some discovery in the higher ground at Trough.

HAWKMOOR.—J. Richards, J. T. Phillips, April 30: The lode in the 80 west is from 2 to 3 ft. wide, composed of capel, quartz, muddle, and stones of copper ore. In the 70 west the lode is from 2 to 3 ft. wide, composed of quartz and capel, with occasional stones of copper ore. The lode in the 60 east is composed of quartz and muddle principally. In the 50 east the lode is worth 1 ton of copper ore per fathom. In the 50 west the lode is 1 ft. 6 in. wide, composed of quartz, fluor-spar, and muddle. In the stopes in back of the 50 east the lode is worth 3 tons of copper ore per fathom. The lode in the pitch in back of the 30 is worth 3 tons of copper ore per fathom. In the adit level west at West Hawkmoor, on No. 2 lode, the lode is small, but of a very promising appearance. We sampled on April 26 (computed), 81 tons of copper ore.

HINGSTON DOWN CONSOLS.—T. Richards, May 1: Morris's engine-shaft is progressing satisfactorily below the 120. The 100 west will produce from 4 to 5 tons of ore per fathom. The 85 west will yield 7 tons of ore per fathom. The 75 east will produce 3 tons of ore per fathom. The stopes in the bottom of the 100 will yield 5 tons of ore per fathom. The stopes in the back of the 100 will produce 6 tons per fathom. The stopes in the back of the 85 are worth 4 tons per fathom. The stopes in the bottom of the 85 will produce 5 tons per fathom. There is no change at any other point. We sampled on Friday last two parcels of ore, and the remainder will be on Monday next, computed 295 tons.

HUCKWORTHY BRIDGE.—James H. Rodda, May 1: In the engine-shaft sinking below the 25 the lode is of the same size and character as last reported; there is no change in the 25 east this week.

KELLY BRAY.—S. James, April 27: The lode in the 125 west is 1½ ft. wide, composed of quartz, muddle, and stones of ore. The lode in the 75 east is 2½ ft. wide, yielding good stones of ore, and likely to improve as we proceed eastward over the productive ground we have in the back of the 85 east, about 2 fms. ahead of the above-named end. There is no change to notice in the tribute department during the past week.—Eastern Mine: In the 70 cross-cut north we think the end is in the capels of the lode, as the ground is very hard, and mixed with branches containing muddle and copper ore. The lode in the 60 east is about 1½ ft. wide, composed of quartz, muddle, and rich stones of copper ore, carrying well-defined walls, with a favourable underlie, about 1½ ft. in a fathom, and the ground is of a congenial character, such ore as is generally found in this district. Rich bunches of ore have been met with in the bottom of the above level, in the last 15 fms., some of which we have drawn to surface. It has been inspected by practical mine agents, and they all fall in with my views as to the ore mine making productive and lasting one when properly developed; looking at the ore, we have discovered at the 70, it looks well for that level. We weighed off on the 26th inst. 101 tons 2 cwt. 2 qrs. of ore for March, and sampled for April (computed) 88 tons. We have on the quay, ready for shipment, from 60 to 70 tons of muddle, which we are daily expecting to send off.

LADY BERTHA.—Capts. Harpur and Metherell, April 27: This being our pay and setting-day, the different bargains were re-let. We have no change to report in either the east or west ends at the 53. In the 41 east the lode has a very encouraging appearance, composed of quartz, peach, muddle, and stones of ore. The stopes in back of the 41 east are composed of ore and muddle, worth of the former 20s. per fm. The lode in the 30 east continues to look well, being from 3 to 4 ft. wide, composed of muddle, peach, and ore, worth of the latter 30s. per fm. The lode in the stopes in bottom of this level is large, consisting of muddle and ore, worth of the latter about 40s. per fathom. Crossman's winze, in bottom of the 20 east, is from 5 to 6 fms. deep, where the lode has a favourable appearance, composed of peach, muddle, and ore, worth 2 tons, or 12s. per fathom. The tribute department is without any particular change.

Capt. Harpur and Metherell, May 2: We have no change to inform you in either of the ends at the 53. In the 41 east no lode taken down since last report, but intend cutting through it shortly. The stopes in the back of the 41 east are looking well; the lode being about 3½ ft. wide, consisting of ore and muddle, worth 6 tons of the former, or 45s. per fm. In the 30 east the lode is over 4 ft. wide, composed of peach, muddle, and ore, worth of the latter from 6 to 7 tons, or 40s. per fm. The lode in the stopes in bottom of the 30 is large, over 6 ft. wide, composed of muddle and ore, worth of the latter 12 tons, or 50s. per fm. In the winze sinking below the 20 east the lode is composed of peach, muddle, and ore, worth of the latter 2 tons, or 10s. per fm. The tribute pitches are opening out pretty well; on the whole, the mine is looking encouraging.

LADY ELIZA.—J. Evans, May 2: The air-ways are progressing very favourably, both in the sinking and upward driving; fine ore are discovered, but not in great quantities. I hope that I shall be able to report the completion of this job in a few weeks. Then, let me have a double number of hands, I beg to state that it will be in my power to relieve the minds of the shareholders from all doubts and apprehensions as regards the success of the undertaking.

LELANT CONSOLS.—J. Williams, April 29: Since my last report, which accompanied the statement of our last account, we have sunk the flat-rod shaft on the new south lode, and are now down 20 fms. from surface; the lode is 4 ft. wide, yielding a great deal of water, and is tiny throughout. The work is of low quality, but we are stamping about one-third of the stuff we raise from the shaft. I consider the lode and ground is getting a little more settled, and I hope

general meeting. I think it will be most advisable to contain the valuable addition you have obtained to the east (180 fms. on the run of the lode north); and to keep cutting some more copper lodes in this additional grant, which is just in the run east of South Canadian lode.

NORTH WHEEL ROBERT.—J. Richards, May 1: Murchison's Shaft: In the 50, east of Elliott's cross-cut, the lode is 18 in. wide, and consists of capel, quartz, and ore, saving work. In the 40 west, east of Gorman's cross-cut, on No. 1 branch, the branch is worth $\frac{1}{2}$ ton of ore per fm. In Fall's rise, in back of the 30 west, the lode is unproductive. In the 30 west, and west of Edward's cross-cut, the lode is 3 ft. wide, composed of capel, mudi, and occasionally good stones of ore. In Crowie's winze, sinking below the 30, west of Edward's cross-cut, on No. 1 south lode, the lode is unproductive. The 30 east, on No. 1 south lode, is being driven in a northerly direction, for the intersection of the north part of the lode. In Davis's stop, in bottom of the 30, on No. 1 south lode, the lode is worth 301. per fm. The trial shaft is in regular course of sinking below the 62, in favourable ground for progress. In Will's cross-cut south, in the 42, east of the trial shaft, the ground is favourable for progress.

OKEL TOR.—W. B. Colton, May 2: The lode in the 80 end is intersected by another cross-course, which we hope to get through in a short distance driving. The slopes continue to look well, yielding 7 tons of ore per fm. In the 65 end there is a fine lode, yielding 7 tons of ore per fm. There is ore also standing north of the level. The slopes in bottom of the 50 are yielding 7 tons of ore per fm. The back slopes are yielding 6 tons of ore per fathom. In the 50 end there is no alteration. We have this week shipped off a cargo of arsenical mudi.

OLD TOLGUS UNITED.—G. Reynolds, May 2: The shaftmen are now driving north in the 70 to prove the appearance of the lode which passed through the south lode a few fathoms above. In the 52 cross-cut the ground is much the same, but we have not intersected any branch or lode since my last report; we purpose driving about 6 feet further in order to prove correctly if any more of the lode is in that direction. We are still driving on the main part of the south lode in the 52 west, which is still looking promising to be very productive as we lay it open. In the 42 west, on the south lode, we have communicated the rise with the winze sunk below the cross-cut in the 32, and now we have good ventilation for extending this level again on a large and promising lode, where we also hope to lay open some profitable ground. The tin pitches are much the same as for some time past.

PEDON-AN-DREA UNITED.—W. Tregay, April 27: The clearing of stuff from the 100 east being a hindrance to the fixing of skip-road from that level to bottom, the sumpmen are continuing the driving of the 110, both east and west; the lode in each end is worth 107. per fm., the east end showing signs of improvement. The 100 east is yielding coarse tin stuff. The slope on north side of winze, in bottom of this level, is worth 301. per solid fm. The 90 west is worth 141. per fm. In the rise in back of this level the lode is not taken down. The 90 west end, on Skinner's lode, is worth 107. per fm. The skip-road men have been cutting ground at the top of the underlie for the rolls, which is now very nearly completed. Street and Bragg's: The 47 east is poor. In the 40 east the lode is large, and promising for the production of tin.

PELYN WOOD.—R. Ware, May 1: In the 10, south of Nelson's shaft, the lode is 3 feet wide, composed chiefly of spar, mudi, and spots of copper ore. We are driving through a favourable channel of ground, at 61. per fm.

PENHALDARVA.—J. Pope, May 1: The engine-shaft is 4 fms. 5 ft. below the 50, where the leader part of the lode is 15 in. wide, producing good stones of lead. In the 50, north of the engine-shaft, the leader part of the lode is 1 ft. wide, spotted with lead. In the 30, north of the engine-shaft, the leader part of the lode is 10 in. wide, producing good bunches of lead—a very kindly lode.

PENHALS.—R. Pryor, J. Gribble, April 27: Setting Report: The engine-shaft to sink below the 30 by six men and three boys, at 161. per fm. The cross-cut to drive north of ditto, in the 30, by three men and three boys, at 71. per fm.; this end is letting out more water, as if it were approaching a lode or branch. The 20 cross-cut to drive north, west of the engine-shaft, by two men and two boys, at 61. per fm. The winze to sink below the 20, west of this shaft, by four men, at 81. per fm. The 20 to drive east of ditto by four men, at 71. per fm. The 20 to drive west of the cross-cut, on south lode, by four men, at 81. per fm. The 10 to drive east of engine-shaft by three men and three boys, at 61. per fm.; this end has very much improved in its appearance, now producing good stamping work for tin. The 10 to drive west of engine-shaft by four men, at 61. per fm. No alteration but that spoken of in the 10 west has taken place since last report. Our tribute setting passed off similarly to that of last month. All the pitches and bargains have been taken. Our pay and setting went off very well.

PROSPER UNITED.—W. H. Martin, May 2: Murchison's lode in the shallow level, 5 fms. from surface, is much the same in appearance as when last reported, producing copper ore in the gossan, but not sufficient to value. Richards's shaft, on the Moor lode, is sunk 3 fms. below the adit level, but is suspended at present in consequence of water; the lode yielded a fair quantity of tin; it is scarcely necessary to add that depth is only required to prove the real value of this very promising lode. We are progressing as fast as possible with our surface operations.

REDMOOR.—T. Taylor, April 30: The ground in the 80 rise is a little harder, owing to the lode splicing in with the cross-course; it is producing some very good saving work. The ground is a little better in the 40 west; no improvement in the lode. The tribute pitches are without alteration.

RHEIDOL.—Capt. Ridge, April 27: In the river adit level the lode in the end driving is 1 ft. wide, yielding stones of lead occasionally; this level has now 5 fms. of backs, and has every appearance, if extended far enough, of coming under the blende in the workings above. We have about 30 fms. to drive to intersect Gwalthech lode. At the point where Gwalthech lode has been worked upon for 35 fms. west, the miners who formerly worked there informed me that during the time of its being worked, they had 1 ton of lead and 2 tons of blende per fathom, and the reason given for that part of the mine being given up in consequence of there being too much water. We have carried the greater portion of the lead from the entrance of the river adit, and have put it through the crusher. It has turned out much better than I expected. I think it would have been nearer the mark had I reported it last week at 2 tons per fm. In Nantglass we have a very likely end for lead.

RHYSCOG MINES.—A. Maraden, May 1: There is nothing new since my last in Cwm Rhy. There must be a foot-bridge to cross the river for the company's use, so I am now seeing to it before the next rain comes on; the expense will be a mere trifle, not more than 20s. A road is also required from the main road to the level across the river; a temporary one to answer our purpose will cost about 31. If we get underground in the adit next week I shall be able to spare two of the labourers from there to do it. I have had two carpenters for two days making frames ready for the adit, agreed for at 2s. each per day.

RIBDEN.—R. Nines, May 2: Within the last few days we have broken some good stones of copper ore in the 62 west, and the lode continues to look most promising. The appearance of the lode in the bottom of the shaft continues without alteration.

ROSEWARNE UNITED.—H. Woolcock, May 2: In the 90, east of Jennings's shaft, the lode is 2 feet wide, producing stones of ore, but not sufficient to value. In the 90, west of footway-shaft, no alteration in the appearance of the lode to notice last since week. In the 55, west of Richards's shaft, ground more favourable, and the stratum more congenial for copper ore. In the 46, east of Lane's shaft, the lode is 2 feet wide, composed of spar, peach, mudi, and a little ore. In the 34, west of Bush shaft, this end, we calculate, is nearly through the elvan course; as soon as we are clear of the elvans, we calculate to have a better lode, the 34 and 32, east of Lane's shaft, without change to notice last week. About 20 fms. east of footway shaft, and 2 fms. above the 46, we have discovered a good course of copper ore, worth full 301. per fm. at this point. We have a large quantity of unexplored ground. The tribute department is looking very well.

ROUND HILLS.—A. and R. Waters, May 1: In the slopes in the back of the 62, south of engine-shaft, the lode is large and of a promising character, yielding at present $\frac{1}{2}$ ton of lead ore per fm. The run of the great bunch of ore seen in the upper level, and developed down to within about 2 fms. of the roof of the 52, has not been intersected in the 62 fm. level, but that the continuation of the bunch does exist we believe; and looking at other analogous points in the mine, we do not hesitate to say that the present limited yield of this end of the mine is only temporary. In the slopes in the back of the 62, south of Bennett's sump, north of engine-shaft, the lode is 2 ft. wide, yielding about 1 ton of lead ore per fm. In the 62, north of level, the winze is passing through a type of hard ground, through which the lode will resume its productive character. Nos. 1, 2, and 3 slopes, in the back of the 62, north and south of middle sump, north of shaft, are each worth 25 cwt. of lead ore per fm. The 40, driving north-east on the caunter lode, is yielding $\frac{1}{2}$ ton of lead ore per fm.

SIGFORD CONSOLS.—W. Hoaking, April 30: The north copper lode has again improved; we took down some of the lode yesterday, and found it from 4 to 5 feet wide, producing first-rate work for copper. We have rocks at the mouth of the level from 2 to 3 cwt. each—good dressing work for copper.

SILVER VEIN.—F. Squire, May 2: The results of silver now being obtained by me daily continue of the same positive character as last reported. The silver lodes are perfectly satisfactory, although not so large. We have made another fine discovery of ore.

SORTKIDDE CONSOLS.—J. Richards, May 1: In the 110 east the lode is 2 ft. wide, and yields a little ore. In Nicholls's cross-cut south, at the 74 east, the ground is favourable for progress. In the 60 east, west of Crew's cross-cut, on the south part of the lode, the lode is not so good, being disordered by slidy ground. In the 50 east, and east of Crew's cross-cut, on the south part of the lode, the lode is worth 107. per fm. In Head's rise in back of the 50 east, on the south part of the main lode, the lode is worth 1 ton of lead ore per fathom; this rise is up sufficiently high for a 40, and levels will now be driven both east and west thereof on the course of the lode. In the 50 east, on No. 2 south lode, the lode is small, and as this end is fast approaching the boundary it is suspended. In the 40 east, on No. 2 south lode, the lode is also unproductive, and for the same reason as above stated is also stopped. In the slope in bottom of the 40 east, on the south lode, the lode is worth 1 ton of ore per fathom. In the slope in back of the 40 east, on No. 2 south lode, the lode is worth 2 tons of ore per fathom. In the 30 east, on No. 2 south lode, the lode is worth 101. per fm.

SOUTH CRESVER.—E. Chegwain, April 30: The lode in the 105 east is split into two parts; each part is about 9 in. wide, producing good stones of copper ore. We have put the sumpmen to sink the flat-rod shaft, which is now down 5 ft. below the 105, and we estimate sinking about 2 ft. per fm. The sump-winze is now down 12 fms. below the 105, and we do not think it advisable sinking any deeper as yet. The tribute pitches are worked down 8 fms. below the 105, and are looking well. South Mine: In the 51 cross-cut south the ground is favourable; we expect to cut the lode in about 4 fms. more driving.

SOUTH DARREN.—J. Boudy, April 30: Saturday last being our pay and setting day, the different bargains were re-set as follows:—The engine-shaft, to sink below the 70, by six men, at 151. per fm.; for the month; the lode in the shaft being 3 feet wide, containing clay-slate, copper, carbonate of lime, yielding some very rich quality lead ore, and presenting a very promising appearance; I intend next month putting nine men in the shaft to push it on as fast as possible. The 70 end to drive east, by four men, at 81. per fathom; the lode is 6 feet wide, containing a dark clay-slate, copper, and lead ore, yielding of the latter about 18 cwt. per fm. No. 2 slope, in back of the 70, west of the engine-shaft, by four men, at 65s. per fm. No. 3 slope, in back of ditto, east of the shaft, by four men, at 60s. per fm. No. 4 slope, east of ditto, by four men, at 60s. per fm.; these slopes continue to yield from 8 to 10 cwt. of lead ore per fm. The 60 end to drive east, by four men, at 61. 10s. per fm.; the lode is about 2 feet wide, containing clay-slate, copper, and lead ore, yielding of the latter about 5 cwt. per fm. A winze to sink below the 60, east of shaft, by four men, at 71. per fm.; here we are only carrying a small portion of the lode, in consequence of the water; as soon as a communication is effected with the 70, ditto, we shall then take down the lode. The 30, to drive east on the north lode, by two men, at 51. 10s. per fm.; the same level to drive west on the north lode, by two men, at 100s. per fm.; I cannot give you the value of the lode here at present. The 20 to drive west of the western shaft, by four men, at 61. per fm., the lode being 18 in. wide, containing clay-slate, carbonate of lime, and lead ore, yielding at present from 10 to 12 cwt. per fm., with every chance of a further improvement. The driving of the 60 west, the 30 west, and the sinking of the winze below the 10, west of air-shaft, will be attended to this week. The tribute pitches are let every two months.

SOUTH LADY BERTHA.—R. Hunsworth, May 1: The 40 east, on the north lode, we have not taken down this week. The slopes east of Leaman's rise are worth 3 tons per fm.; the slopes west are worth 2 tons. We have weighed off 36 tons 19 cwt. 2 qrs. to Messrs. Williams and Co., and 48 tons 16 cwt. 2 qrs. to Messrs. Sweetland and Co.

SOUTH WHEEL MARGARET.—W. Richards, May 2: We have cleared and secured the adit 50 fms. on the great south lode, and consider there are yet about 30 fms. more to clear to enable us to reach the end; to all appearance, the lode for the whole of this distance must have been very valuable for tin, the ancient workers having taken away both back and bottom, so far as the inefficient machinery then applied would admit of. We have broken some splendid stones of tin from the arches left by the ancients to support the ground. On No. 2 lode, the old shaft being sunk so near the large cross-course, I would advise sinking a new shaft further to the east, and drive on the cross-course both north and south, to intersect the two parallel lodes at any depth that may be considered advisable. I would also advise sinking on the new copper lode, which gives unmistakable evidence of early producing large quantities of copper ore.

SOUTH WHEEL TOLGUS.—May 1: Youren's Lode: The lode in the 130, west of Mitchell's engine-shaft, is 1 ft. wide, of peach, spar, and jack. In the 130, east of Mitchell's shaft, driving south towards the south lode, the ground is rather hard. The lode in the 120 west has not been taken down since last reported. The slope in the back of the above level yields $\frac{1}{2}$ tons of ore per fathom. In the 110 west the lode is small and unproductive. The lode in the 100 west is 20 in. wide, chiefly of mudi. The lode in the winze sinking in the bottom of the 100 west is 1 ft. 6 in. wide, producing occasional stones of ore, but not to value. In the 90 west the lode is 10 in. wide, yielding about 1 ton of ore per fathom. The lode in the 78 west is 2 feet wide, composed of peach, spar, and stones of ore—a very promising lode. In the winze sinking in the bottom of the above-mentioned level the lode is 15 inches big, producing 1 ton of ore per fathom. The lode in the 68 west is 1 ft. 6 in. wide, chiefly of spar. South Lode: In the 120 west the lode is $\frac{1}{2}$ ft. wide, of spar, peach, and mudi. The lode in the 110 east is 2 feet wide, of soft spar and flookan—unproductive. The two slopes in the back of the 110 east are each yielding $\frac{1}{2}$ tons of ore per fathom. The lode in the 100 east is 15 in. big, unproductive. The lode in the winze sinking in the bottom of the 90 east is 18 in. wide, of peach and white iron. New South Lode: In the 78 west the lode is 18 in. big, chiefly of spar, and letting out a large stream of water. No lode or branch has been met with in the 90 cross-cut, north from Youren's lode, west of Mitchell's shaft, since last reported.

ST. DAY UNITED.—R. Pryor, Jun., E. Ralph, J. Cook, C. Oates, April 27: At Trussell's north shaft, sinking below the 154, the lode is 2 feet wide, producing $\frac{1}{2}$ tons of copper ore per fathom. The slope in the 144, west of the shaft, will produce $\frac{1}{2}$ tons of copper ore per fathom. The slope in the bottom of the 144, west of the shaft, will produce 3 tons of ore per fathom. Billings's shaft, sinking below the 154, is worth 351. per fathom. In the 134 end, east of shaft, the lode is 5 feet wide, and worth 251. per fm. In the 154 end, west of shaft, the lode is 3 feet wide, and worth 101. per fathom. The slope in the back of the 154, east of the shaft, is worth 181. per fathom. The slope in back of the 154, west of the shaft, is worth 201. per fathom. In the 144 end, east of the shaft, the lode is small and poor. In the winze sinking below the 144, east of shaft, the lode is 5 feet wide, and worth 151. per fathom. Three slopes in the back of this level are each worth 121. per fathom. In the 134 end, east of shaft, the lode is 4 feet wide, and worth for tin and copper 121. per fathom. In the 114 end, west of Trevillian's shaft, the lode is 9 ft. wide, and producing saving work for tin. In the 153 end, west of Blasse Pool engine-shaft, the lode is 2 feet wide, and producing good stones of ore. In the 114 end, west of Davey's, on the old lode, the lode is 3 feet wide, and producing stones of ore. Our pay and setting went off very well.

ST. IVES WHEEL ALLEN.—H. Taylor, May 1: The 30, east of Giesler's, is still looking very well; the lode is about 18 in. wide, and worth 181. per fm. The lode in Rodrick's engine-shaft is much the same as last week, about 7 in. wide, and worth 51. per fm. The 50, west of sump-winze, is not yet holed to the 50, east of Giesler's, but we are expecting to do so daily. The masons are building the steam-stamps and whim-house with all possible speed, and we shall not be long in completing this work. All the pieces are without any alteration to notice since last week.

TEES SIDE.—Richard Bray, May 1: The ground at the engine-shaft is not quite so favourable for sinking as when last reported on. The north side, or cheek of the north lode, is improving, going down with a good sprinkling of ore. I cannot say the state, as we have not yet reached the last 2 fms. sinking. So far as I can see, it is looking very promising to be a productive lode in sinking in the limestone. No change in the sun vein since my last. I will send you the setting report after the pay.

TOLCARNE.—May 1: Field's Lode: In Field's shaft, sinking below the 20, the lode is 2 ft. wide, composed of quartz, gossan, and good stones of ore, yielding $\frac{1}{2}$ ton of ore per fathom for length of shaft (12 ft.), and is promising for further improvement. The lode in the rise in back of the 20 east is 10 in. wide, and consists of spar and gossan; in the 20 west the lode is 2 feet wide, composed of quartz, gossan, and occasional stones of ore, a promising lode. The lode in the winze sinking in bottom of the 10 east is 18 in. wide, composed of gossan and quartz. In the winze sinking in the bottom of the adit east the lode is 6 in. wide, unproductive. King's Lode: The lode in the rise in back of the adit is 1 foot big, composed of gossan and spots of black ore. The ground in King's shaft, sinking from surface, is rather hard. Enghoven's Lode: The lode in the adit end, driving west, is 5 ft. wide, worth for tin fully 601. per fm., a splendid looking lode. The slope in back of the adit east is worth for tin 351. per fm.

TREFULACK UNITED.—T. Hodge, May 1: The engine-shaft is cut down and secured 30 fms. below the adit level. Our drop-lift is now resting on stiles, about 40 fms. below the adit, and the sumpmen will commence to clear up the shaft this afternoon, and from the reports of the old workers we have about 4 fms. more to reach the bottom of this shaft. In the 36 west, on the south lode, the lode in the bottom of the end is 6 in. wide, producing good tin work. The wheel-shaft is below the 26 about 6 fms.; here we have met with a part of the cross-course, which is letting out a little water; the ground is moderate for sinking. The 16 cross-cut is driven south of wheel-shaft, towards the caunter lode, about 5 fms.; ground rather spare. The wood shaft is below the 16 about 14 ft.; ground very good for progress. The tributes are all working regularly, and getting good wages. The engine and pitwork are in good working order.

TRENCROM.—R. Hollow, F. Bennetts, May 2: In Giesler's engine-shaft, sinking below the 90, the lode is producing saving work. In the 90, east of the engine-shaft, the lode is worth 21. 10s. per fm. In the 80, east of the engine-shaft, the lode is worth 41. per fathom. In the 80, west of the engine-shaft, the lode is worth 21. per fathom. In the 60 cross-cut, clearing south-east of the engine-shaft, no change. In the 40, east of the engine-shaft, the lode is worth 21. 10s. per fathom. In the 30, east of the engine-shaft, the lode is not to value at present. In the 20, east of Mitchell's flat-rod shaft, the lode is worth 31. 10s. per fathom. In the 20, west of Mitchell's flat-rod shaft, the lode is producing saving work.

TREVENEN AND TREMENEHEE UNITED.—J. Webb, May 1: The engine-shaft is in an excellent condition for sinking; the men are using all their powers to reach the bottom in the 170 fm. level by the end of the present month, and I think they will do so; we shall then be throwing open the tin ground. The 160 will in about a fortnight be ready for a short period, and the men engaged putting up a rise in the back; this rise is opening an excellent piece of ore ground. Stephens's shaft, sinking below the 50, is improved, worth 1 ft. 2 tons of ore per fm.; the 50 east will produce $\frac{1}{2}$ tons of fair quality ore per fm. The tribute pitches generally are looking better, and the mine altogether is looking well.

TREWEATHA.—T. Foot, J. Scoble, April 30: The ground in the engine-shaft, sinking under the 15, still continues favourable for sinking, and the men are making good progress. The lode in the rise in the back of the 15 fm. level south is without alteration since last reported on.

TRUMPET UNITED.—G. R. Odgers, April 27: Nothing new in the lode at the 15 since my last. We shall commence the shaft below that level next week, so that everything is being done as vigorously as possible. We have also fixed the flat-rod to the flat-rod shaft, which we shall sink next week.

TYNE HEAD.—G. Millican, April 29: The level is a little easier to drive; now set at 61. 10s. per fm.

WENTNOR (Pantass).—T. Pierce, May 2: We are repairing the bottom of Grosvenor shaft, cutting plat, &c., and getting ready to sink the same, as last reported. The lode in the present forebore of the 64 yard level is full 3 ft. wide, composed of clay, spar, calcimine, and good lumps of solid ore; it is a fine, strong lode, and promises well; the cross-cut south of this level, to cut the parallel rise, is in solid limestone, and is progressing well. Our pay and setting will be on Saturday, when I will report bargains.

WEST BASSET.—W. Roberts, April 30: In the 114, west of Percy's shaft, the lode is 2 ft. wide, with occasional stones of ore. In the 104 west the lode is 3 ft. wide, producing 1 ton per fm. The 94 east produces 1 ton, the lode is 3 ft. wide. In the 84 west, the lode is 3 ft. wide, producing 3 tons per fm.; this end is suspended in order to drive north about 4 fms. to get under Grenville's engine-shaft. In the winze sinking under the 65 the lode is $\frac{1}{2}$ ft. wide, tribute ground; the rise in the back of the 65 is opening tribute ground. In the 50 west the lode continues 2 feet wide, producing stones of ore, and is likely to improve. South Lode: In the 84 west the lode is 1 foot wide, producing 1 ton of ore per fm. In other parts there is no alteration to notice.

WEST CONDRURW.—G. Jewell, May 2: Since our last report we have sunk the engine-shaft 6 feet below the 12; the lode is 4 feet wide, composed of spar, pryan, and peach, with red flookan, and producing a little tin impregnated with copper ore. As soon as we are a little deeper we shall commence driving east and west at the 12. The other bargains are much the same as when last reported on.

WEST DEVON CONSOLS.—G. Rowe, May 2: Our exertions in forking the water have been attended with success. The engine-shaft will be drained to the present bottom by to-morrow morning, after which no time will be lost in clearing up the shaft and the different levels, and getting each point into active operation.

WEST FAR.—J. Webb, May 2: After driving 14 fms. from the first shaft we intersected the copper lode, which is 3 ft. wide, composed of gossan, mudi, and spots of yellow copper ore—a strong promising lode. We shall continue on the adit towards the tin lode, which we calculate about 20 fms. from the copper lode; the ground is easy, and it shall be hastened on with all speed. I enclose tin bill, and draft for the same.

WEST SHARP TOR.—W. Richards, April 29: We have an increase of water in the 150 cross-cut, and the end is very rusty, which impedes the progress; the part now being cut into is still gossan, containing red oxide of copper and grey copper ore. The sumpmen will complete the tip-lift on Wednesday, when the sinking will be resumed with all possible good effect.

WEST SNAILBEACH.—J. Richards, May 2: The north lode, driving east at the 64, is looking very favourable for a good one, and is producing some good stones of ore. I expect an improvement here daily. There is no alteration to report in any other part of the mine.

WEST TOLGUS.—May 1: The men are making good progress in sinking Taylor's engine-shaft; the water is drained by the rise putting up from the back of the 40. North Lode: The lode in the 40, west of Wheel Raven engine-shaft, is $\frac{1}{2}$ ft. wide, producing 2 tons of ore per fathom—a fine promising lode. The lode in the 50, west of Wheel Raven shaft, was taken down last week, and has improved; now $\frac{1}{2}$ ft. wide, yielding 1 ton of good ore per fathom, and promising for further improvement. We have drained the water from Wheel Raven engine-shaft, the bottom of the 65, and are now clearing that level west from shaft as fast as possible, and hope to complete it by Saturday next, when we intend setting it to drive west on the south lode

with all speed. If the lode continues to hold good in the 40 and 50 fm. levels we shall soon open ground for a good pitch or two.

WEST WENDRON CONSOLS.—R. Kendall, J. Hore, April 27: We have cleared the cross-cut south of the engine-shaft 12 fms., and are now about 5 fms. from a shaft which we cleared to the back of the cross-cut; this shaft is about 20 fms. from the lode behind the smiths' shop, where the old men worked extensively. No change in the water-wheel shaft or 10 fm. level to notice. We are getting on with the flat-rods and bob-stands as fast as possible.

WEST WHEEL MARGARET.—Capt. Uren and White, April 30: Hallett's shaft is down nearly 7 fms. below the 20; the lode is split into two branches, and at present somewhat confused by a hard bar of ground coming in from the south side of the shaft; however, we expect to get through this shortly, as there are indications of a change for the better in the present bottom. The lode in the 20, east of Hallett's shaft, is 2 ft. wide, worth 31. per fm. We have cleared up the old workings on Wheel Mary lode 6 fms. deep, but as yet we have not reached the bottom.

WEST WHEEL TREVELYAN.—G. R. Odgers, J. D. Osborn, April 26: The 58 to drive west, by six men, at 41. per fm.; here we have cut through the lode, where it is nearly 4 ft. wide, composed of quartz, &c., and which we are of the opinion is looking more kindly than it did at any of the upper levels so near the shaft; this we purpose to push on with the utmost vigour to get under the ore ground below the 48. The 48 to drive west, by four men, at 41. per fm.; lode being from $\frac{1}{2}$ ft. to 3 ft. wide, producing a little ore, but hardly enough to value; although a kindly lode, at this level we have driven through a good piece of ground 16 fms. long. A slope above this place, to eight men and one boy, at 31. per fm., where we have a good lode, worth full 151. per fm. At 27 fms., west of the shaft, same level, we have set another slope, to four men, at 21. 10s. per fathom, where we are glad to say we have a good lode, worth 121. per fm.; this is a good improvement. A winze to sink below the 38 west, by six men, at 81. per fm.—a lode small. A cross-cut to drive north of the main lode, at the 28, by four men, at 41. per fathom, the ground being of an easy kilias; we have intersected a small branch letting out water. The cross-cut is extended south at Park's shaft 5 fms., and which we have re-set to four men, at 61. per fm. On the whole, we think the mine is looking better to-day than we have seen it for some time. We sampled 41 tons on April 23, and we calculate the next to be equal to the last.

WHEEL AGAR.—W. Roberts, April 30: The following bargains were set on Friday last:—Windost engine-shaft to sink under the 30, by nine men, at 251. per fm. The 80 to drive west, by six men, at 141. per fm.; this end is now under the east end of the winze sinking under the 70; in the present end the lode is 4 ft. wide, producing nearly 2 tons of ore per fm. The winze under the 70 is down 7 ft. 6 in.; we intend to hole it to the 80 before taking down any more of the lode, which was last reported at 6 tons per fm. Price for sinking, by eight men, 91. per fm.; the 70 east, by four men, 61. per fm.; a winze under the 60, by four men, 51. 10s. per fm.; the 60 cross-cut north, by four men, 41. 5s. per fm. In this end we have some branches of yellow ore, and if no other lode is found, they should be opened east and west after a while.

WHEEL ANNE.—H. B. Grose, May 2: The lode in the deep adit, cut last week, is of the same size and value as last reported, producing rich work for tin, with every prospect of a continuance. The shallow adit is being pushed on with all the speed possible, and we hope to reach the great lode by the beginning of next week, when we may expect a good course of tin. We are getting on with clearing the ground for the large wheel, and no time will be lost in getting it to work. Our tin from the stamps is turning out well, better than expected, from the back of the lode.

WHEEL ARTHUR.—T. Carpenter, April 30: We have driven the adit level north by the side of the cross-course 3 fms. 4 ft., but not yet reached the lode. We are daily discovering small branches of spar, intermixed with mudi, running in the same direction the lode is, to the east of cross-course, and letting out a quantity of water; this end is driving by six men, at 61. per fm. The lode in back of adit west is 4 ft. wide, and still improving, yielding rather more than 1 ton of ore per fm.; rising and stopping by men; ground strongly mineralised. The lode in the 40, east of the engine-shaft, is 2 ft. wide, composed of quartz, gossan, and good stones of copper ore. We expect to cut the cross-course in this end in a few days. This level is driving by six men, at 31. 3s. per fm.; stent to cut the cross-course. I have put two men to stop the back of the adit on the north lode, about 4 fms. east of the western boundary, where the lode is 4 ft. wide, composed of spar, capel, mudi, and copper ore, worth about 1 ton per fm. No alteration in any other part of the mine to notice.

WHEEL BEBOR.—J. Gifford, April 30: Cock's Shaft: We have completed the skip-road to the 60, and commenced driving east and west. No alteration in other parts of the mine since my last. We sampled at Morwellham, on Friday, the 26th, 32 tons of copper ore.

—May 2: There has been an enquiry for our mudi, of which we have from 50 to 60 tons. Mr. Harvey's assay of the ore sampled is 45s.

WHEEL CUPID.—R. Pryor, April 27: We are getting on very well with the breakage, and shall have it completed and the engine set to work on Monday next. The men in the two bottom levels have been engaged about this work, therefore there has been no change to notice since last reported. The lode in the 40, east of the engine-shaft, is split into two parts, which has for the time lessened the value; the general character of this end is good, and I think a further improvement will shortly be met with.

WHEEL EDWARD.—M. H. East, April 27: South Lode: In the 81 west we are driving by the side of the lode; ground moderate for progress. In the 71 west the lode continues large and ore, worth from 4 to 5 tons per fm., and looks promising to continue productive. In the 61 west we are driving by the side of the lode; the ground looks favourable for mineral. In the rise in back of this level the appearances are of a very promising character for opening up a large quantity of ore ground. The main lode is worth at present 3 tons of ore per fathom. In the 61 east the lode is disordered, and we think we are getting near the main part of the cross-course in the level above. In the 50 west the ground is very much easier for working, and we calculate we are getting very near; ground strongly mineralised. We worked on yesterday, at Calstock, the ore sold on the 18th inst., which amounted to 199 tons 5 cwt. 2 qrs., which realises, with carriage, about 10087.

WHEEL GREENVILLE.—G. R. Odgers, W. Bennetts, April 27: The lode in the engine-shaft is full 2 ft. wide, composed of quartz and pryan, with a little ore, what we term a strong and kindly lode; set to nine men, at 301. per fm. The lode in the 100 east is nearly 18 in. wide, an ore lode, but unfortunately there is a great deal of water flowing from it, that carries away the black ore; had it been dry it would yield $\frac{1}{2}$ ton per fathom; set to four men, at 41. per fm. The lode in the 100 west is nearly 2 ft. wide, a pretty lode, yielding 1 ton per fm.; this is likely to lay open a piece of ore ground; set to four men, at 31. 15s. per fm. The lode in the 90 east is 18 in. wide, producing good stones of ore—a kindly lode; set to four men, at 61. per fm. The lode in the 90 west is 18 in. wide, producing good stones of ore—a kindly lode; set to four men, at 61. per fm. A slope in the back of this level, to four men, at 61. per fm.; lode worth 101. per fm. The lode in the 80 east is split into branches; set to four men, at 71. per fm. The lode in the 80 west is 14 in. wide, of quartz and peach

At the Swansea Ticketing, on Tuesday, 1029 tons of ore were sold, realising 9895*l*. 15*s*. The particulars of the sale were—Average standard, 114*l*. 17*s*.; average produce, 10 5-16; average price per ton, 9*l*. 12*s*. 4*d*.; quantity of fine copper, 106 tons 2 cwt*s*. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore cop.
March 26	1304	.....1103 5 10	.....19 <i>l</i> 7 <i>s</i>	.....£18 7 0	.....292 6 0
April 9	1786	.....107 2 9	.....14 <i>l</i> 7 <i>s</i>	.....13 14 0	.....92 3 0
April 30	1029	.....114 17 0	.....10 5-16.	.....9 12 4	.....93 6 0

Compared with the last sale the advance has been—in the standard, 14 10*s*.; and in the price per ton of ore, about 3*s*. 1*d*. Compared with the corresponding sale of last month, the advance has been—in the standard, 17 12*s*.;

and in the price per ton of ore, about 3s. 3d. Of the 1029 tons sold on Tuesday, 783 tons were from British mines, which gave an average produce of 9 3-16, and sold at an average standard of 117 5s.—87 9s. 4d. per ton of ore. The remaining 246 tons were foreign ores, which gave an average produce of 14 1/2, and sold at an average standard of 109 1/2. 6d.—137 5s. 8d. per ton of ore. On May 14 there will be offered for sale 1427 tons of ore, from Knockmahon, Berehaven, Great Northern of Australia, Brada United, Worthing, and elsewhere.

The following are the Government Returns of the exports of articles identified with mining, the produce and manufacture of Great Britain, for the three months ending March 31, 1861; and also as compared with the three months ending March 31, 1860; extracted from the "Accounts relating to Trade and Navigation," published by the Board of Trade:—

DECLARED VALUE FOR THE THREE MONTHS ENDING MARCH 31.			
	1860.	1861.	Decrease.
Coals and culm	£ 617,676	£ 657,845	—
Hardware and cutlery	516,089	731,460	£ 215,371
Machinery:—			
Steam-engines	£172,705	£209,098	—
Other sorts	489,988	540,978	50,990
Total	£2,096,458	£2,139,371	£42,913
Metals:—Iron:—			
Pig	£145,989	£167,709	21,720
Bar, bolt, rod	513,389	584,519	71,130
Railway	641,676	605,782	35,894
Wire	65,556	58,500	7,056
Cast	137,813	107,971	29,842
Wrought	672,118	2,176,541	1,504,423
Steel	218,725	168,861	49,864
Copper:—Unwrought	213,310	120,614	92,696
Sheets	380,791	263,463	117,328
Wrought	45,814	639,915	594,101
Lead:—Pig	91,994	36,547	55,447
Ore	42,093	134,987	92,894
Tin:—Unwrought	67,869	66,390	1,479
Plates	371,542	439,411	67,869
Grand total	£5,741,684	£5,121,631	£620,053
Less increase—coals and culm, 40,169; machinery, 87,881; brass, 69,851; lead, 82,481.			
Total decrease			£620,053

At the Brynford Hall Mine meeting, on Tuesday (Mr. Page in the chair), the accounts showed—Mine cost, Jan. to March, 1861, 2s. 8d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At Herward United Mine meeting, on Tuesday, the accounts showed—Mine cost, Jan. to March, 1861, 2s. 8d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At the West Tolcarne Mine meeting, on Wednesday (Mr. R. Hallett in the chair), the accounts showed—Balance last audit, 15427 1/2. 2d.; mine cost, Dec. to Feb., 1861, 2s. 8d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At the North Downs Mine meeting, on Wednesday (Mr. Hallett in the chair), the accounts showed a credit balance of 1637 1/2. 3d. The report of the agents and the details of the meeting appear in another column.

At the North Minera Mine (special) meeting, on Monday (Mr. Lank-shier in the chair), the resolutions passed at the previous meeting for the division of the sett, were confirmed. The resolutions were to the effect that the North Minera sett be divided into two parts, reserving to the present company Pugh's workings and the adjacent portion; for the purpose of working the remaining portion of the sett a company, to be called the Deep Level Lead Mining Company, is to be formed, the capital of which will be 10,000l., divided into 2000 shares of 5l. each, which shall, by the Articles of Association, be considered to be paid up to the extent of 2l. 10s. per share, such shares to be allotted *pro rata* to the shareholders, who, upon the day of registration of the proposed company, shall hold shares in the present company.

At Wheal Hendra meeting, on April 22, the accounts showed a debit balance of 1387 8s. 8d. A call of 10s. per share was made. Captain King's salary was fixed for the future at 5l. 6s. per month; and thanks voted to Mr. Trethow for the "very efficient manner in which he put up the engine." Capt. R. King, in concluding his report, says: "Reviewing the position and prospects of the mine, now the machinery is fixed, and we have pitwork for another year, and everything in fair working order, our expenditure will in future be less, and that laid out in opening up tin ground; our prospects now are very cheering, and I believe the time is not far distant when the adventurers will be amply repaid for their outlay. We sampled on the 19th inst. 9 tons 6 cwt. 2 qrs. of tin stone, producing about 7 1/2 cwt. of black tin; this shows that the quality of the ore is good."

At the Trelovel Mine meeting, on Tuesday (Mr. Brightman in the chair), the accounts showed a debit balance of 8307. A satisfactory report was read from Capt. Richards, which, with the details of the meeting, appears in another column.

At West Wharfedale meeting, on April 22, the accounts showed—Balance last audit, 1157 1/2. 6d.; mine cost, Dec. to Feb., 1861, 2s. 8d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At North Wharfedale meeting, on Thursday (Mr. R. Hallett in the chair), the accounts showed a balance of liabilities over assets of 3177 1/2. 6d. A call of 2s. 6d. per share was made. Messrs. Hallett, Richards, and Essex were appointed the committee of management. Details appear in another column.

At the United Mines (Tavistock) meeting, yesterday (Mr. T. Buckland in the chair), the accounts showed a debit balance of 1707 7/2. 9d. A call of 2s. per share was made. Details appear in another column.

At Wheal Sidner meeting, on April 24 (Mr. W. T. James in the chair), the accounts showed—Balance last audit, 4817 1/2. 7d.; mine cost for Jan., 1861, 2s. 8d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At South Wharfedale meeting, on Tuesday, the accounts to the end of February showed—Expenses in obtaining leases, 300l.; labour cost, 2937 1/2. 2d.; merchants' bills, 1997 1/2. 1s.—7927 1/2. 3d.—Calls, 5007 1/2. 1d.—leaving debit balance, 2927 1/2. 2d. A call of 10s. per share was made. The agents are to look out for a 24-inch (or more) rotary engine. Capt. S. Mitchell, J. Borlase, and S. Mitchell, jun., reported upon the various points of operation. Their confidence of ultimate success in the undertaking remains as strong as ever.

At North Trekerby Mine meeting, on Tuesday, the accounts for the two months ending February showed—Balance last audit, 1057 8s. 3d.; merchants' bills, 4817 8s. 2d.; mine cost, 11807 1/2. 11d.; dues, 48s. 9d.; interest and discount, 4s. 8d.; 7847 1/2. 1d.—Ores sold, 5807 1/2. 8d.; leaving debit balance, 2047 1/2. 5d. The balance of assets over liabilities was 3157 7/2. 5d. The report of Capt. T. Pierce, the agent, stated that he expected to have a new rock of ground soon.

At the North Hallenbeagle Mining Company meeting, held at the Albion Hotel, Leeds, on April 29 (Mr. F. C. Gilbert in the chair), Messrs. F. C. Gilbert, John Bingley, and Thomas Bell were re-elected, and Messrs. W. H. Wilks and G. Boddy were elected directors for the ensuing year. Mr. Edward Bolton was appointed auditor of the company. The directors reported that in addition to the well-known and valuable lodes which the North Hallenbeagle possessed, they might refer to the discovery made by the Tregulow Consols Company within the boundary of this sett of a rich lode of tin at a depth of only 7 fms. The shareholders may be congratulated upon this discovery. Capt. C. M. Thomas and James Craze reported that no operations have hitherto been carried on below the adit level, consequently all our operations for a considerable period will be carried on at very shallow depths, and at a comparatively light working cost, an obvious advantage over deep and expensive mines. As soon as the engine is at work operations will be carried on upon the north copper lode, under the course of ore gone down in the adit, and which at that shallow point realised upwards of 20007. worth of ore, and the three parallel copper lodes to the south explored. Contemporaneously with these operations proper workings will be opened upon the Berries Great tin lode, and the other tin lodes of value, and when all these lodes are fairly developed, having regard to their number, their known productiveness, the congenial stratification in which they are embedded, and the district in which the mine is situated, no doubt can be entertained of realising satisfactory and successful results.

At East Releath Mine meeting, on April 25 (Mr. S. Hey in the chair), the committee of investigation reported that the accounts of the mine were in a most confused and incomplete state; that there had been no regular system of book-keeping, and they do not find that any cash-book has been kept, no banking account has been opened, and there does not appear to have been any check whatever upon the expenditure. All the paid officers of the company were dismissed (Mr. Blackburn, the solicitor, being empowered to act as *pursor pro tem.*), and they were authorised and directed to deliver to the committee all books, documents, and effects relating or belonging to the company. The committee were authorised to appoint the necessary officers, and to act as they deem most advisable to obtain an assignment of the lease of the mine from the present lessees to the committee, as trustees for the company. They were further empowered to discharge outstanding liabilities, and to carry on the mine with vigour and economy. The mine is held under a lease granted by Sir R. R. Vyvyan to Capt. Paul Raby, the father of the *pursor*, and to one Timothy Smith. The solicitor to the committee advised that Capt. Raby and Timothy Smith should be called upon to execute a deed declaring that they held the lease for the benefit of the company. At first such a deed was promised,

but after negotiations between the solicitors, it was found impossible to obtain the deed except upon terms involving the adoption of the *pursor's* accounts, and the payment to him of a large sum which he claimed as balance due to him, to which the committee could not assent. Under these circumstances steps are to be taken to obtain the lease. The present appearance of the mining grounds are reported to be of a favourable character, and the committee are of opinion that, with judicious and economical management, there is every prospect of the undertaking becoming prosperous and remunerative.

At Gardina Mine meeting, on April 24 (Mr. J. G. Plomer in the chair), the accounts for the three months ending Feb., showed—Balance last audit, 14297 8s. 8d.; mine cost, 8197 5s.; merchants' bills, 6667 1s. 1d.—29197 9s. 4d.—Calls, 14337 12s. 1d.—leaving debit balance, 14797 17s. 4d. A call of 17 9s. per share was made. Captains James Rowe and Paul Priok reported upon the various points of operation. There is about 4507. worth of ore at surface.

At Stencosse and Mawla United Mines meeting, on April 15, the accounts showed—Mine cost, merchants' bills, and sundries, 8457 1s. 5d.—Balance last audit, 6417 12s. 4d.; calls received, 5007 1/2. 1d.—leaving debit balance, 2807 9s. 1d. A call of 10s. per share was made. Messrs. Moyte, Tyack, and Roach were re-elected the financial committee. Capt. N. Reed reported upon the various points of operation in the mine.

At Wheal Mary Emma meeting, on April 25, the accounts showed a debit balance of 5117 12s. 4d. A call of 9d. per share was made. Capt. W. Doble says: "I examined two lodes further north that a party working the adjoining sett is now opening, a little distance from the Mary Emma sett; they are looking well, and producing good stones of tin; these lodes run more than a mile through the Mary Emma sett, and can be worked to the depth of fully 50 fms. without machinery. I have no doubt that are long we shall find it of importance."

At the Crane Mine (Camborne) meeting, on April 25, the accounts showed a debit balance of 4937 19s. 7d. A call of 8d. per share was made. The proceedings were most satisfactory; the proprietors present represented 605 out of 908 shares. The 70-inch cylinder engine was set to work, and the mine forced 10 fathoms under the adit in less than twelve hours. The large engine and whim-engine are remarkably good, and the steam-capstan will be an undoubted advantage and saving of expense. Many experienced agents and tributers (shareholders in the mine) were present, and the captain's report and *pursor's* financial statement were considered most satisfactory, and it is the general opinion that Crane mine well worked will (with its three main lodes, two counter lodes, two elvan courses, and fine cross-course, breaking, as it does, the iron or greenstone into fragments on either side of it) make one of the leading mines in the district.

At Great Wheal Tor meeting, on April 23, the accounts for Oct., Nov., and Dec. showed—Labour cost, 27917 13s. 1d.; merchants' bills, 11517 13s. 1d.; new condensing work for 70-in. cylinder pumping-engine, 1197 13s.; interest and commission, 247 5s. 9d.—4987 5s. 11d.—By sales of tin ore, 45717 9s. 2d.; sundries, 1417 12s.; copper ore, 6817 18s. 10d. (less lords' dues, 1937 17s. 7d.); making profit on the three months' working, 3747 18s. 1d.; add balance from last account, 1197 16s. 9d.—leaving to credit of mine, 4947 18s. 10d. Capt. R. Pryor, J. Daniel, and J. Hosken reported on the mine—"The prospects since the last meeting are considerably improved, consequently the sales of tin will be increased. The tribute department consists of 42 pitches, employing 101 men, at tributes varying from 7s. 6d. to 14s. in 1l., at cost of per ton for 1000—total employed, 385."

At the Nantcos and Penrhyn Mine meeting, on Thursday (Mr. J. H. Murchison in the chair), the report of the managing director was read, which appears in another column.

At the North Wrey Mine meeting, on Tuesday (Mr. C. W. Wessel in the chair), the accounts for the three months ending March, showed—Calls and capital received, 22977 16s.—Expenditure to the end of Dec., 18607 7s. 4d.; mine cost, merchants' bills, and sundries for March quarter, 4867 7s. 4d.; leaving credit balance, 37 1s. 3d. Calls are in arrears to the amount of 1777 4s. A call of 2s. 6d. per share (except on 500 shares not liable) was made. The directors report that there are many points with reference to the mine upon which they and the shareholders may congratulate themselves; and an extension of ground much required on the north has (entirely through the energy of Mr. Balcomb) been obtained, Lord Ashburton liberally granting this extension, which is 180 fathoms, on the run of the lodes beyond the former boundary, free of all cost.

At Willow Bank adjoined meeting, held yesterday, it was resolved to accept the surrender of 360 shares, on all calls made being paid and a proper document signed. It was also resolved to take steps to recover the calls in arrears, and to resume operations in the western part of the mine as soon as possible. Another general meeting is to be held not later than two months hence.

At South Caradon Wheal Hooper meeting, on Tuesday (Mr. F. Combs in the chair), the accounts showed—Balance last audit, 867 2s. 9d.; mine cost, merchants' bills, and sundries, 7577 4s. 5d.—4837 7s. 2d.—Calls received, 6897 2s. 11d.; leaving debit balance, 1547 4s. 3d. A call of 3s. per share was made. Captains W. C. Cook and Francis Fryer reported upon the mine. Capt. Cook has never seen the mine, upon the whole, looking so promising, and suggests that the same points be continued; and Capt. Fryer concurs with this suggestion.

At Wheal Pollard meeting, on Tuesday (Mr. J. Hutton in the chair), the accounts showed—Balance last audit, 907 6s. 11d.; calls received, 1767 16s. 9d.—2677 3s. 8d.—Mine cost and sundries, 2607 14s. 6d.; leaving credit balance, 67 9s. 2d. The liabilities are 9107 9s. 5d., to meet which there are arrears of calls 5437 2s. 6d., and the balance as above, 67 9s. 2d. A call of 3s. per share was made. Capt. W. C. Cook reports that very little has yet been done towards proving this extensive sett, which, from its situation, must contain a great many lodes, some of which are among the most productive in the neighbouring mines. He considers there are several points well deserving a spirited trial, but as it would increase their monthly cost he recommends that the points now prosecuting only be continued for the present.

The Bryn-Arian Mining Company sold and shipped, on April 28, 32 tons 8 cwt. of lead ore, to Messrs. Sims, Williams, Nevill, and Co., Llanelli, at 131 8s. 8d. per ton, and 6 tons 13 cwt. 2 qrs. of copper, from the Pwll Roman, at 87 1s. per ton.

The Copiapo Smelting Company quote their copper at 977. per ton.

At the Central American Mine (annual) meeting, on Monday (Mr. John Macdonnell in the chair), it appeared that the costs in England and Central America during eight months ending August, 1860, amounted to 13,6397., and the proceeds of ore sold in England to 12,7687., showing an increase of expenditure of 8627. But during that period, and subsequently, there had been a considerable addition to the stock of ore. The directors and managers had the greatest confidence in the prosperous results of the undertaking. In England at the present time there was an excess of liabilities over assets of about 90007., which would, however, be soon cleared off if the remittances of rich silver were moderately good. Details in another column.

At the English and Canadian (annual) meeting, on Monday (Mr. A. Morrison in the chair), the report of the directors stated that in 1858-9 their sales of ore had realised only 7227., but that in the past year the amount had been increased to 15397., besides a parcel of 26 tons lying at Quebec. The directors had been authorised to raise an additional capital of 8007., to carry out the plan of their mining superintendent. The retiring directors were re-elected. Details in another column.

At Lady Eliza Mine meeting, to be held this day (Saturday) the accounts (as audited by Messrs. Cooper Brothers and Co.) show—Lease of mine, 44457 17s.; sundry expenditure, 14607 6s. 11d.—61067 3s. 11d.—Calls received, 56617 13s.; forfeited shares sold, 467 6s.; leaving debit balance, 3987 4s. 11d. The directors report that the mine is in that position that a short time will prove its certain success; and they remind the shareholders that there are several other valuable lodes known to be near the present workings, which may any day lead to more important discoveries. The district is almost entirely without an excess of liabilities over assets, which has been making immense profits for centuries, and at one time had a course of solid ore 9 feet wide. At Lady Eliza there are about 13 tons of lead ore ready for crushing. Several directors will retire, in place of whom others will have to be appointed.

LEADS, MAY 2.—The Mining Share Market has been active during the week, and quotations have been well maintained:—Brea Consols, 29s. to 29s.; Hebdon Moor, 2 to 2 1/2; Merryfield, 4s. to 5s.; Nidderdale, par; North Hallenbeagle, 2 to 2 1/2; Wensleydale, 7s. 6d. to 8s.

At WHEAL HENRY (Hevellyn) Lead Mining Company extraordinary general meeting, held at the Griffin Inn, Leeds, on Monday, it was resolved to wind-up the company voluntarily, in consequence of the exhaustion of the capital. The directors expressed to the meeting their unaltered conviction that the mine contained wealth to amply reward perseverance, and keenly regretted the course they were compelled to pursue, at a time when, according to the opinion of high mining authorities, the outlay of but little more money—4007. to 10007.—would, in all probability, enable them to prove the mine to be a productive concern.—JOHN GLENDHILL and Co.

AUSTRALIAN COPPER ORE.—It appears from the Swansea official "Copper Ore Circular," that among the parcels of ore for sale at the public ticketing on the 14th instant four samples from four distinct mines of the Great Northern Copper Company are included. The respective yield of copper gives the following high percentage:—

Mine No.	Tons	41	30 per cent.
" 1	" 35	30 1/2	"
" 2	" 1	33 1/2	"
" 3	" 1	40	"

CORNISH PUMPING-ENGINES.—Capt. Lean gives the number of pumping-engines reported for March as 27. They have consumed 2262 tons of coal, and lifted 17-5 million tons of water 10 fms. high. The average duty of the whole is, therefore, 52,000,000 lbs. lifted 1 ft. high by the consumption of 112 lbs. coal. At Dolcoath they stop steam times, and the lift has been idle. At Carn Brea a pair of rolls are worked to crush the samples.

MINE ACCIDENTS.—At West Seton, on April 24, William Bailey was killed in the 80 fm. level by a fall of roof after blasting. Fourteen months since his son was killed in the same level from a similar accident. At Wheal Agnes (St. Cier) a miner named Mildred fell down the shaft and was killed.

GOVERNMENT TESTING OF WELSH AND STAFFORDSHIRE IRON CABLES. A number of lengths of 2-in. chain cables, manufactured by Messrs. Wood Brothers, of Chester, and Messrs. Park and Co., of Dudley, have been tested at Woolwich. The whole of the cables withstood the test well, and all bore nearly double the strain required by the Admiralty regulations—namely, 72 tons; those of Messrs. Park's and Co. giving way at 121 1/2 tons, while those of Messrs. Wood's resisted to 130 tons strain, and broke only at that point. Messrs. Wood's cables were stated to be manufactured of Welsh iron, and those of Messrs. Park's of Staffordshire iron. The trials were pronounced to be highly satisfactory, and extremely creditable to both firms, and the fullest approbation was accorded to each of the exhibitors. Messrs. Park's links, of an oblong shape, were accorded the preference, Messrs. Wood's being an oval form of link.

As Mr. J. Y. WATSON is on a tour through the mining districts, any communications upon the mines referred to in his "Notes" may be addressed to him through Messrs. WATSON and CUELL, St. Michael's-alley, Cornhill, London.

TENDERS FOR 100 TONS OF BLENDE, FROM MINERA MINES, WREXHAM, ON APRIL 30.			
Mines.	Tons.	Price per ton.	Purchasers.
Lot 1	65	£ 7 6	R. C. & W. Wright.
Lot 2	35	4 1 6	ditto

LEAD ORES.

Mines.	Tons.	Price.	Purchasers.
Bryn-Arian	32 1/2	£13 8 0	Sims, Williams, & Co.
Sold on the 29th April.			
Frongoch	50	12 12 6	Panther Co.
ditto	50	12 13 0	ditto
Cwm Erwin	60	15 0 0	ditto
East Darren	50	14 16 0	Sims, Williams, & Co.
Tenders for 405 tons of Lead Ore, from the MINERA MINES, Wrexham, on April 30.			
Lot 1	100	13 2 0	Walker, Parker, & Co.
Lot 2	100	13 2 0	ditto
Lot 3	100	13 2 0	ditto
Lot 4	90	13 2 0	Panther Co.
Lot 5	8	13 5 0	Walker, Parker, & Co.
Lot 6	8	10 10 0	Panther Co.

BLACK TIN.

Mines.	Tons.	Price per ton.	Purchasers.
Bryn-Arian	8 15 0	27	£ 620 14
Sold on the 27th April.			
So: Carn Brea	7 0 0	23	476 14
Sold on the 30th April.			
Gr. Wheal Busy	12 9 2	3	842 3
ditto	1 16 0	27	93 6

COPPER ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Bryn-Arian	6 13 0	27	£ 168 10

COPPER ORES.

Sampled April 10, and sold at Swansea April 30.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Knockmahon	73	8%	£7 18 6	Dyllife	55	7%	£6 18 6
ditto	67	8%	8 0 0	Hunterdon	42	7%	6 9 6
ditto	95	9%	8 18 0	ditto	2	16%	16 3 6
ditto	97	9%	8 18 0	Saltauna	26	5%	4 2 6
ditto	77	7%	7 17 6	ditto	5	7%	6 1 0
ditto	51	8%	7 17 6	Corbet Dovey	18	3%	2 13 0
ditto	79	12	11 6 0	ditto	3	25%	1 10 0
ditto	77	12	11 6 0	Regulus	16	57%	54 16 0
Virgin Gorda	71	11%	11 6 6	Australian	5	17	15 8 6
ditto	69	12%	11 10 6	Holyford	5	12%	11 2 0
ditto	7	40%	37 14 0	Oola	1	7%	6 2 6
Laxey	111	8	6 17 0				
TOTAL PRODUCE.							
Knockmahon	591	£5396 18 0	Corbet Dovey	21	£ 35 9 6		
Virgin Gorda	147	1859 13 0	Regulus	16	876 16 0		
Laxey	111	760 7 0	Australian	5	77 2 6		
ditto	55	380 17 6	Holyford	5	55 10 0		
Hunterdon	44	304 6 0	Oola	1	6 2 6		
Saltauna	33	142 16 0					

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Company.	Tons.	Amount.
Copper Miners Company	194	£1929 9 0
Freeman and Co.	84	894 15 0
P. Grenfell and Sons	29	380 3 6
Sims, Williams, Nevill, and Co.	59	676 0 0
Williams, Foster, and Co.	297 1/2	2944 5 9
Mines Royal Co.	71 1/2	1256 19 6
F. Bankart	85 1/2	787 16 3
C. Lambert	18	27 0 0
Sweetland, Tuttle, and Co.	164	1399 6 0
Total	1029	£9,896 15 0

Copper ores for sale at Swansea, May 14.—Knockmahon 61, 65, 66, 87, 42, 61, 51, 104—Berehaven 120, 108, 95, 110—Great Northern (South Australia

THE GLAMORGANSHIRE LEAD AND BARYTES MINING COMPANY (LIMITED).

Capital £7500, in 1500 shares of £5 each.
10s. per share to be paid on application, and 10s. on allotment.
This mine is situated at Llanegw, in Glamorganshire, and has produced from surface workings nearly 4500 tons of lead ore, containing 90 per cent. of pure lead; and beautiful white barytes.
The geological situation is excellent, being in the mountain limestone, like the Miners, Allendale, and the Northumberland and Mendip Hill Mines.
The above capital is abundantly ample for bringing the mine into a position of first-class importance.
Nicholas Ennor, Esq., and Capt. Joseph Hodge have reported on the sett in the most favorable terms.
Applications for the remaining shares, and for prospectuses, plans, and reports, may be made to the solicitor and secretary, J. ARTHUR MORRIS, Esq., F.G.S., 17 and 18, Gresham House, London; or to the brokers, Messrs. CASTLE BROTHERS, 18, Throgmorton-street, London, and Stock Exchange.

THE BRYNFELIN COPPER MINING COMPANY (LIMITED).

Capital £6000, in 1200 shares of £5 each.
Incorporated under the Joint-Stock Companies Act, with limited liability.
Deposit, £1 per share.
Mr. WILLIAM HAWES, Piccadilly, Manchester.
Mr. EDGAR WILLIAMS YARROW, 27, Arundel-square, London.
DIRECTORS.
Mr. WILLIAM HAWES, Piccadilly, Manchester.
Mr. HORATIO NELSON, 10, New Cavendish-street, Portland-place, London.
Mr. EDGAR WILLIAMS YARROW, 27, Arundel-square, London.
BANKERS—Messrs. Roberts, Lubbock, and Co., London.
SOLICITORS—Messrs. N. Lindo and Son, 47a, Moorgate-street, London.
MANAGER—Mr. John Evans, Plasina, Penmorfa, North Wales.
SECRETARY—Mr. Thomas Fuller, 8, Moorgate-street, London.

PROSPECTUS.
This company has been formed to purchase the lease of, and to continue upon a more extensive scale the workings of the Brynffelin Copper Mine, situated in the parish of Beddgelert, North Wales.
The operations have been previously carried on by a few private gentlemen, who being willing, in order to extend the operations, to admit a limited number of co-adventurers with a capital of £3000—a sum considered ample to place the mine in a dividend position—have consented to transfer the whole of their interest to the present company, for the sum of £3000, and to accept 600 shares of £5 each, paid up, in liquidation thereof.
The principal workings have been confined to three veins lying a few feet apart, from which 515 tons of copper ore have been raised, averaging a produce of 8½ per cent., and realised the sum of £3763 14s. 10d.

The ground in which the lodes are embedded is highly mineralised, and of the most promising description for the production of rich copper ore; the main lode having yielded 7 tons, worth 50s. per ton; the ore is richer in quality, and of more value going down than in the upper workings, where about 240 tons of ground have been wrought, each fathom having yielded £12 worth of copper ore, at an average cost of £4.
By reference to the plan of the workings, it will be seen that the courses of ore opened in the upper levels concentrate in the adit level, where a junction of the lodes takes place, justifying the expectation that upon this point being reached (about 25 fms. from the present end), large and continuous courses of ore will be found.

The property is most advantageously situated, being on the north bank of the River Glaslyn, affording every facility for the economical working of the mine, there being an abundant supply of water-power.
Reports from competent mining engineers and agents, as to the general capabilities of the mine, and the certainty of realising profitable results from a judicious mode of working, may be seen at the office of the company, affording ample proof as to the value and importance of the property, the prospects of which present unusual chances of great success, and a large return for the capital invested.

In the event of the mine paying dividends before the full amount of capital is called up, such dividend to be in proportion to the amount paid; but any shareholder may, within three months of subscribing for shares, pay in advance the full amount, and be allowed a discount of £5 per cent.

Applications for the remaining 6000 shares to be made on or before the 10th May, accompanied with the deposit of £1 each, addressed to the Secretary, at the registered offices of the company, where every information may be obtained.

THE GLAN-Y-PWLL SLATE AND SLAB COMPANY (LIMITED).

Capital £30,000, in 6000 shares of £5 each.
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JOSEPH JACKLIN, Esq., Brighton (late firm Poulton and Jacklin).
Lieut-Col. GEORGE O'BRYEN O'LEARY, Albion Tower, South Norwood.
MORRIS ROBERTS, Esq., (firm of Roberts and Griffiths), Glamorganshire Slate Works, Carnarvon.
BANKERS—Messrs. The London and County Bank.
SOLICITORS—Messrs. Meyrick and Gedge, 4, Storey's-gate, Great George-st., Westminster.
BROKERS—Messrs. Huggins and Rowell, 1, Threadneedle-street, London.
Messrs. J. J. Stephens and Son, Dublin.
Messrs. Brodie and Byrn, Livre Chambers, Liverpool.
Mr. Robert M'Ever, Ducle-buildings, Bank-street, Exchange, Manchester.
MANAGER—Thomas Cooper Smith.

OFFICES—5, WARFORD COURT, THROGMORTON STREET, CITY.

The object of this company is to work the Glan-y-Pwll Slate Quarries, situated in the parish of Festiniog, in the county of Merioneth, North Wales, and on the same mountain range as those magnificent quarries owned by Lord Palmerston, Messrs. Huddart and Matthews, and Mr. Holland. This sett adjoins their boundary, is a direct continuation of their seam, and consequently produces slate rock of precisely the same character and quality.

From the position of this sett it is, perhaps, unequalled in Wales in natural facilities. The workings are about 250 yards from the level, and the slate rock crops out from the top of the mountain. From the works an incline, at a comparatively small cost, may be laid down for the conveyance of slates in railway trucks direct to the main line, running within 100 yards of the mountain, to the quay at Port Madoc. The carriage is about 3s. 6d. per ton. Another very important advantage is the space afforded for the deposit of waste or debris sufficient for an unlimited period. The water-power is at all seasons ample for any work that may be required.

A considerable portion of the capital has been already subscribed.
Plans of the quarry, together with reports and samples of the slates, may be seen at the office of the company.

Applications for the remaining shares to be made to the bankers, solicitors, brokers, and the manager, at the office of the company, where prospectuses and forms of application may be obtained.

SOCIETE GENERALE FRANCO-SERBE (EN COMMANDITE).

For the navigation of the Danube and Save by iron-steam-boats, and for the working of the valuable and extensive coal field of Dobru, and of the iron, lead, and copper mines, steam works, iron and copper works, and the forests of Midampek, under the authority of grants made to the company by the Servian Government.
Share capital, 2,500,000 frs. (£100,000). Loan capital, 1,000,000 frs. (£40,000).

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M. VISCOMTE DE ST. ROMAN, 72, Rue de Provence.

M. EDMOND RABA, 27, Rue St. Lazare.

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The bonds will carry interest at 6 per cent. to be payable half-yearly in Paris and in London. The principal to be paid off either in London or Paris within 15 years. All the bonds will be numbered, and a certain portion of them paid off every year. The bonds to be paid off will be determined by lot. The first drawing will be on the 1st of December, 1862.

Each holder of five bonds will receive as a bonus one fully paid-up share of 500 frs., in respect of which he will incur no responsibility whatever, either for calls or liabilities of the company.

Payment of the bonds will be fully secured by charges on the property of the company. The shareholders will receive their dividends at the company's bankers in London or Paris, in half-yearly payments.

For a prospectus showing in detail the property and prospects of the company, and the security offered to the bondholders, apply to Messrs. Hutchinson and Son, to whom all applications for bonds are to be addressed.

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Notices to Correspondents.

* Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

IMPROVED BLASTING CARTRIDGES.—I noticed in last week's Journal a reference to an improved form of cartridge case, invented by Capt. Webb, of St. Austell, which certainly appears to be all that can be required for ensuring safety; but as cost is a point which is always well considered before any new project is adopted, I think it would be as well for Capt. Webb to state the proportion which the cost of the new cases bear to the old. I do not altogether agree with him that there is as much necessity for inspection in Cornish mines as in coal mines, although perhaps Capt. Webb may be able to demonstrate it satisfactorily.—AN ADVENTURER.

ASHBURNTON UNITED.—"A Shareholder" should write to the directors respecting the reports; we do not know why their publication has been discontinued. Mr. N. Ennor will also, on application, furnish information respecting Pengenna Mine.

GREAT WHEEL ALFRED.—Allow me to draw attention to a statement in last week's Journal respecting this mine. In the City Article it is stated that the costs since last meeting have been £1267 13s. 5d., and that the ore sold amounted to 31761 2s. 7d., thus showing a loss of 19607 10s. 8d. on the three months. Your report, however, of the meeting does not agree with that abstract, neither does it with the statement of accounts, a copy of which now lies before me, and from which it appears that the ore sold realised £7121 2s. 7d. I think in justice to this great property you should give the same prominence to the correction as you gave to the error.

EAST GUNSLAKE.—"Fact" can himself ascertain from the firm referred to the particulars he requires; they are so highly respectable and well-informed, as to render any information they may furnish perfectly reliable. We never either interfere in the sale or purchase of shares, or recommend one office for enquiry in preference to another.

SOUTH CARADON WHEEL HOOPER.—"Query" has been misinformed as to a fair discovery having been made in this mine. As to the price or value of shares, we upon all occasions specially avoid offering any opinion thereon, and must refer our correspondent to a mining broker; and as to the question "Why is there no committee of management?" that is a matter which can only be decided by the shareholders at a general meeting of the company.

ST. JOHN'S UNITED (NEWFOUNDLAND).—In answer to our correspondent, "I. S.," we may state that the application to the Bankruptcy Court for a winding-up order has been deferred, to allow time for the settlement of the petitioner's claim.

SUBSCRIBERS IN AMERICA.—Our friends in America are informed that they can obtain the Mining Journal by ordering a few booksellers in any of the principal towns of the United States. Mr. Tribner, of Paternoster-row, is the London agent, and sends parcels by every mail to the principal booksellers and news agents there.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MAY 4, 1861.

The returns from the Board of Trade, with respect to the exports from the United Kingdom for the first quarter of this year, show a considerable deficiency as compared with the corresponding period of 1860, although an improvement, relatively, over the returns for the months of January and February. The total declared value is set down at 27,669,249s. for the three months of 1861, ending March 31; while the amount in 1860 was 30,481,907s., so that there is a difference of 2,812,658s. against the first quarter of this year. For the month of March alone, as compared with March 1860, there is an advance of 557,360s., the excess of 10,950,830s. over 10,393,470s., so that there is good reason to believe the succeeding returns will continue to improve.

With reference to matters identified with the mining interests, there is necessarily a corresponding state of things—that is to say, the difference of this year over the last bears the same proportion to the general amount, as is usual. The aggregate for 1861 is 5,021,631s., against 5,741,684s. in 1860; consequently a less amount by 720,053s., after allowing for increase in coals, machinery, brass, and lead, of the collective amount of 217,018s. The details, as usual, are in another column.

The account of the precious metals and bullion which have passed between this and other countries is again discouraging. The balance against us is 2,134,486s. for the three months. The total exports were 7,133,034s., against 4,998,548s. imports; the former consisting of 4,143,483s. in gold, and 2,989,551s. in silver; and the latter 3,023,136s. in gold, and 1,975,412s. in silver. From France, however, we received more than we sent, which is a change as respects the late returns under this head—we sent 916,380s.

and imported thence 1,092,195s.; so that the balance is in our favour to the amount of 175,815s. To Egypt, for India and China, we forwarded 2,687,265s., against a return of only 645s.; and to the United States we exported 3,080,318s., and received only 5056s. From Australia, however, we imported 1,612,081s. without exporting either gold or silver; and from Mexico obtained 1,935,446s. on similar terms. To the Brazils we exported 41,533s., and received nothing in return in the shape of bullion or specie.

No subject has received fuller attention during the last two or three years than the relations of the working classes to their employers. The relative rights, obligations, and duties of labour and capital have been amply propounded and expatiated on by supporters of the most opposite views, and scientifically discussed by social science congresses. Commissions and committees have issued elaborate reports, which magazines and newspapers have rendered familiar to every class of the public. Above all, the disastrous strike in the building trade last year, and the prospect (now happily passed away) of a similar calamity occurring this year, has made the subject one of the leading topics of daily discussion for some weeks past.

All these discussions show that there exists among a large proportion of those interested in the question, either as employers or employed, a settled conviction that, in the present state of society, there is a necessary antagonism between capital and labour. The interests of each seem to be regarded as inevitably hostile, and their relative positions only to be settled by a war of adverse combinations. It is impossible fairly to deny that a large proportion of the labour of the kingdom is carried on in this mutual state of tacit antagonism between the employers and employed, notwithstanding a great deal of verbal expression of the importance of mutual interests. Without seeking to discover which side is most to blame for such a state of things—admitting for the sake of argument that both sides are equally to blame—we think that no one acquainted with any of those branches of industry where such an adverse feeling constantly exists between masters and men, whose usual relations to each other may be best described as an armed truce, ready on the smallest provocation to break into the open war of a strike or a "lock-out," can have failed to observe the fatal effects in the long run, both commercially and morally, on all parties. The experience of the whole history of mankind would have prepared us for this result by the example of the effects of similar past instances of class antagonism; which, without any exception, have ever been productive of enormous evils.

The true principles of economical science have long since rendered familiar to thoughtful men the fallacy of the notions upon which all such feelings are founded. The industrial antagonism of classes, as of nations, has no existence except in the perverted imagination; and the diffusion of sound economical knowledge will ultimately as effectually dissipate the delusion that the respective conditions of either master or workman are to be benefited by artificial combinations, as the sister idea of the industrial interests of nations being served by a war of tariffs. As this latter fallacy seems likely to show the last evidences of a vigorous existence in the land of democracy and universal suffrage, so it is to be feared that the allied notion of the innate antagonism between capital and labour will be found among the working classes.

There is one branch of industry, however, which has ever been happily free from all the evils arising from the feelings we have referred to, and that is the Metallic Mining Interests. Among the large mining population of Cornwall—a population renowned throughout the world for its industry and intelligence—there are neither combination nor strikes. This great branch of national industry can be, and ever has been, conducted without recourse to such means, and that, too, with a result eminently beneficial to the labouring classes themselves, for we believe no other interest in the kingdom can show such a great proportion of working men advanced into the ranks of the middle classes. It would take us beyond our present limits to enter upon a discussion of the causes to which this happy state of things is to be attributed. Our object here is different: it is to refer to a tendency which we have on many occasions observed in more than one quarter, to endeavour to disturb this harmony by persuading the working miner that he is suffering under wrongs and injuries of which he himself seems to be quite unconscious, and to create a class antagonism between employer and employed in one of those branches of industry which is as yet happily free from such a great evil. Some of these would-be fomenters of discord are mere notoriety seekers, who might be safely left to find their own level; but others are well-meaning, respectable, and amiable men—some even professed philanthropists—undoubtedly actuated by good intentions and disinterested motives. With those every effort should be made to point out to them the folly and danger of the course they are pursuing, and the utter worthlessness of the few alleged facts—notoriously imaginative—on which they would seek to disturb and endanger an important but eminently precarious interest, and trouble the harmonious relations between employer and employed, introducing a state of things the evils of which they so fully recognise and deplore in other branches of industry.

LOSS OF LIFE IN MINES.

Few, even in Cornwall itself, but those who have made the subject a special study are aware of the degree to which miners' lives are shortened. It is true that many excellent papers proving this have been published, especially those in the "Journal of the Royal Polytechnic Society," but they do not appear to have arrested the attention of the general or even of the mining public, and something more is needed to produce the strength of conviction necessary to effect the changes that will remove the evil. That the evil really exists is not to be doubted: 25 years ago the Royal Polytechnic Society of Cornwall offered a premium for the best essay on the diseases peculiar to miners, which was in 1838 awarded to Mr. R. Lanyon, surgeon, of Camborne. That essay proved that miners were unusually short-lived, that they suffered from a great excess of disease, and became prematurely old—that the causes of these tremendous evils were to a great extent removable; while other enquirers have proved their removal, or rather their great diminution, might be effected with large and direct profit; and yet after an interval of a quarter of a century, notwithstanding some partial improvements, the condition of miners as a class is still essentially the same—their lives are still shortened, their health destroyed, and the power to labour lessened.

It is broadly asserted that the continuance of these evils in their present degree is due either to the ignorance or indifference of mine adventurers to the welfare of the men they employ, though it is so evidently both their interest and their duty to preserve the health and economise the strength of those upon whose successful efforts their own profits depend.

Whether his view of the case be correct or not, it is most important that the truth should be ascertained. If the loss of life can be prevented, all concerned must rejoice in learning how that happy end is to be attained. If the evil be without remedy, it would be only just that those who are now blamed, and apparently with reason, for permitting it to continue unabated, should be acquitted of neglect which seems little short of criminal. Without for a moment insinuating that feelings of humanity alone would be insufficient to stir those who control mining operations to endeavours to preserve life, it is well that they should reflect how very closely their own profits depend upon their men's welfare. If it be true, as statistics clearly prove, that a very large proportion of miners die of consumption, it follows, of course, that a very large proportion of those actually at work must be suffering from that disease in a more or less advanced stage, for consumption makes progress towards its fatal termination gradually, and often very slowly. It needs no argument to convince us that men whose lungs are being gradually destroyed must be incapable of exerting themselves with full strength and activity, and that, therefore, the extensive prevalence of a fatal disease among a class of labourers must very materially enhance the cost of their effective labour. Nay, it is highly probable, if not quite certain, that the cost to the employers of such labour is greater than in proportion to its diminished efficiency, for the men must be induced to encounter the risk, almost the certainty, of destroyed health, by higher wages or equivalent advantages. If these considerations be true, and they can hardly be doubted, it follows that there would be a large profit in removing the causes of disease, and it is highly probable that that profit will be greatly in excess of the cost incurred, and that instead of being, as it is at present, an impediment to the development of mining enterprise, diminution of danger in mining will greatly facilitate the profitable working of mines.

All this may seem very cold-hearted calculation, but it is not so. Improvements which cost much more than they are worth, not in themselves, but directly to those who pay for them, are of little practical value, for their introduction is next to impossible. For example, if those needed to make mining healthy are so costly as to render it unprofitable, it is evident that

they would be resisted alike by masters and men; and, unless they can be proved to pay, they are little likely to be tried. In order to arrive at some reasonable conclusion on this all-important point, it is necessary to enquire what is the nature and extent of the evil, and by what means, and at what cost, can it be removed or diminished? The nature of the evil is best shown by the result of enquiries into the chief causes of death among Cornish miners. About two years ago a very interesting paper on this subject was published by Mr. Robertson, an eminent surgeon, of Manchester; and Dr. Farr, chief statistician of the General Register Office, presented some very valuable tables on the vital statistics of miners to the Congress of Statisticians of All Nations, which met last year, under the presidency of the Prince Consort. Dr. Farr has since pursued these very useful investigations, the most striking result obtained being that, great as is the loss of life from the numerous accidents in coal pits, that from consumption among copper and tin miners is far heavier. Thus it is proved by the registration of deaths that even in the Staffordshire collieries, in which the deaths by violence are more numerous in proportion than elsewhere, 28 per cent. of colliers who attain the age of 15 die by violence; but of Cornish miners of the same age above 44 per cent. die of consumption; and that almost three times as many Cornish miners die of consumption as do males in England generally. Of course, miners are more exposed to injury by accident than the average of Englishmen, and about 50 per cent. more than the average die by violent causes; but in other respects, except these two, they seem less liable than the average of men of like ages to the causes which produce premature death, and, therefore, the enquiry chiefly needed is to ascertain what are the causes of the excess of that consumption by which they are destroyed so rapidly.

That the chief cause of the excess of consumption among miners is something which acts peculiarly on them is shown by two circumstances—first, it destroys those miners chiefly who are above 40 years of age, though generally middle-aged men are less liable to it than those under 30, while somewhat less than the usual proportion of young miners die of it; this proves that it is not produced by the same causes as common consumption. The other fact is, that other men residing in the mining districts of Cornwall, who do not work in mines, are not more liable to premature death than men living in other parts of England. It has been supposed as miners often live on bleak moors, and are, therefore, much exposed to the inclemency of the weather, and have sometimes very defective house accommodation, that these circumstances will explain their unhealthiness. To some extent this may do so, but that this is not the chief reason is shown by the fact that the women in the mining districts, who do not go underground, do not suffer unusually from consumption; but they must be exposed to the same effects of defective house accommodation, to at least, as great a degree as their husbands, fathers, or brothers. They must also have similar hereditary constitutions; many of them work as long as the men among copper ore, breathing anything that may arise from it, and are quite as much exposed as the men to the weather while going to and from their work, but they do not go underground as the men do, and do not, like the men, suffer from any remarkable excess of consumption. These facts seem to prove that whatever be cause of miners' consumption, it is something which acts upon them chiefly, if not exclusively, in the mine itself. That it is not simply working at a great depth underground is proved by the fact that the colliers of Durham and Staffordshire suffer much less from consumption than the average of men of like ages, and coal mines are as deep as copper mines, and often as wet, and more dusty. They differ in being better ventilated—having more fresh air they are cooler. Coal is not so hard as rock, and the labour of getting it is less exhausting than that of "beating the borer," in which so much of a miner's work consists. There is less powder smoke, and no exhausting labour in climbing a long succession of ladders. To each of these, different enquirers have attributed more or less of the excess of consumption among Cornish miners. But the last importance that the real cause should be ascertained, and that it may be rightly directed for its removal. This can only be done by a careful and rigidly impartial enquiry amongst those who have the best means of information, and nothing will or ought to satisfy us that the enquiry is careful and impartial unless it be conducted by those accustomed to similar investigations, and who have no interest or prejudice to gratify by the result.

COAL IN THE SILURIAN OF SOUTH WALES—No. II.

Our great coal fields are in the carboniferous formation, and upon this scientific fact alone we should be justified in concluding that there is no coal in the Silurian rocks of South Wales. But in itself that would not be satisfactory proof, inasmuch as anthracite and bituminous shale are sometimes found in Silurian, and even the older metamorphic or transition rocks. It is, therefore, requisite for us, without entering upon any abstruse scientific question, to notice the general conditions under which coal is found. The vegetable origin of coal is now established beyond reasonable doubt, and as an abundant flora existed in every era, from the carboniferous to the tertiary, we are prepared to discover in any of them coal of a certain description. And, in accordance with this theory, lignite, or carbonised wood, extensively used as fuel in many places, is obtained in the triassic, cretaceous, and tertiary systems; but in the formations anterior to the carboniferous there was no flora from which coal could be formed. The fossils of the Devonian and Silurian strata have led to the conclusion that they were for the most part formed in deep seas far from land; and plants are as unknown, or at least as rare, in them as they are abundant and universal in the coal measures. The older strata, says Humboldt, contain merely cellular and marine plants, and it is only in the Devonian system that a few cryptogamic forms of vascular plants have been observed. Now, although there was no flora, speaking generally, in the Silurian period, we have in these ancient rocks bitumen, anthracite, and highly carbonised shale. In describing the Longmynd, Sir Roderick Murchison remarks, where the strata are altered by the intrusion of eruptive rocks they contain copper, and some of the cavities are lined with crystals of quartz, and occasionally with bitumen or mineral pitch; and in geological works we frequently read of films of anthracite embedded in the Silurian, but of no economical value. Then, if there were no flora in these ages, whence anthracite and bitumen? M. Abich, in noticing the earlier rocks of this period, says petroleum (like that issuing from the rocks of Pitchford and Haughmond Hill) is a compound primitive body, engendered in the interior of the globe, whence it arises like carbonic acid, of which the real origin is unknown. Probably this conjecture is good so far as it goes, but it does not refer to the anthracite or to the carbonised shale. Sir Roderick Murchison meets this difficulty with a very plausible explanation, which is sustained by recent investigation. In referring to the laminae of anthracite, at Teviotdale, near Edinburgh, which formerly gave rise to the notion that coal was subordinate to the schists of North Wales, he says, "It has been surmised that this anthracite resulted from the carbonisation of sea-weed, or possibly of graptolites and annelids, but the discovery by Nicol of some imperfect reed-like plants in the rocks, with a minute vascular or tubular structure in the burnt residue of the anthracite, has led to the suggestion that some sort of grassy vegetable existed in the adjoining lands of this series." Helmersen, too, is of opinion that "most of the bitumen and anthracite beds of the lower Silurian rocks in Europe owe their carbon and hydrogen to decomposed marine vegetables, and the soft bodies of graptolites." And Mantell, in reference to the subject generally, observes, "Although beds and patches of culm, anthracite, and bituminous shale occur here and there in the lower Palaeozoic rocks, yet plant remains are extremely rare; indeed, it is not yet proved for certain that the old anthracite schists owe their origin to the decomposition of masses of sea-weed rather than to zoophytes, and what have been regarded as fossil fungi may, after all, really be the cast of worm tracks. This is certainly the case with the Scolithus Linearis of the Potsdam sandstone and Lingula flags." It is in the upper Silurian (tillstones) only that as yet seed vessels and woody relics of terrestrial vegetation have been found in England, and these are of the Sycopodiaceous type. It would be tedious to refer at greater length to the views of eminent scientific men upon this subject; we have, however, said sufficient to prove that according to the accepted principles of geology we cannot expect to find coal in the Silurian of South Wales.

But a difficulty occurs here which we must honestly state, our object being to elicit the truth, so far as it is known. A few years ago Mr. D. Sharpe, a distinguished geologist, in a memoir read before the Geological Society, announced the discovery of a coal field in the Silurian of Portugal. He represented the coal-bearing strata of Vallongo, which contain plants not distinguishable from those of the carboniferous era, as dipping under lower Silurian schists, with their characteristic trilobites.

"Now," to use the words in *Siluria*, "if this had been really the normal position of the plant-bearing state, we should have to believe in the existence of an ante-Silurian flora, composed of the same terrestrial vegetation as that which, in other regions, we find only when we approach to the horizon of the great coal fields. Believing fully in the

accuracy of Mr. Sharpe's sections, I think, however, from his own faithful description of this district, and the region to the south of it, that we may surmise how this apparent anomaly has been brought about. The lower Silurian rocks, and the contiguous coal strata (for the coal is not found within the body of the lower slates), are both situated between two ranges of eruptive rocks; the one on which Oporto stands being granite, and the other, to the east, syenite. On the flanks of the granite of Oporto micaceous schists abound; which, if metamorphic, may be of any age. But, even if these be of ante-Silurian date, we have simply to imagine a trough of coal, of the true carboniferous date, placed between these schists on the one hand, and the clay-slates, with lower Silurian fossils, in the other, and then by a movement, of which we have many well-authenticated examples both in Europe and America, this trough has been placed in an inverted and dislocated position. The enormous length of time which must have elapsed between the accumulation of the lower Silurian and the formation of the Devonian rocks, and during which interval we have no evidence of land plants having appeared, forbids us, indeed, to adopt the view of an infra-Silurian coal field, until we have exhausted every other means of information."

Even if this ingenious explanation of Sir Roderick should not be found correct, we must wait patiently for the result of further enquiries before venturing to act upon a new theory, subversive of all our present geological knowledge. We believe the result will eventually confirm the existing theory, which is universally accepted, and based upon a large mass of continually augmenting evidence. Not many years since the mineral structure of the schists of the Sichon, in Central France, their purple plum-coloured exterior, and their fracture, combined with the aspect of the sandstones, grits, and conglomerates, gave them a character from which few geologists would hesitate to assign them to the grauwacke or most ancient Silurian or Cambrian deposits; but Sir Roderick Murchison, in 1851, obtained fossils which prove that these rocks belong to the carboniferous series, and thus one of the facts which was held to favour a Silurian coal-field was destroyed. It would be an easy matter to prolong this article with other striking illustrations; but surely they cannot be required, nor indeed would it be compatible with our purpose to go further into this scientific question. What we have advanced will, however, help to establish our assertion that there is no coal of economical value in the Silurian of South Wales.

CORNISH NOTES—FOR "OUT-ADVENTURERS."

BY J. T. WATSON, F.G.S.

What is an "out-adventurer?" This question will probably be asked by many persons who read the heading to this paper; and it may be answered thus. In former times, when investing in mines was chiefly confined to residents in the mining districts, those shareholders who benefited as merchants in supplying the mines with their merchandise, and that often to a very considerable extent, were called "in-adventurers;" while those who resided beyond the favoured circle, holding shares and furnishing their supplies in the shape of calls, were termed "out-adventurers." At the present time the words may be applied, as I now apply them, simply to those shareholders in mines who live out of the mining districts, and, consequently, out of the way at times of very useful and necessary information. Many of them, I fear, have also been for a long while out of patience and of hope in their speculations; and a few "facts and figures," obtained from personal investigation on the spot, may neither be unacceptable nor out of place.

It has always been a difficult matter to persuade some people that mines making the greatest returns, and paying the largest dividends, are not necessarily the best and safest to invest in. In the olden times I have spoken of the fair and proper way of working a mine was considered to be that of taking away half the quantity of ores discovered, leaving the other half as a reserve, in case of any temporary falling off in the lodes; but in these go-ahead times shareholders—especially those who buy for the market—look for the largest returns that can be made, and hence it is we see so many mines pay dividends too soon, and after a time return to calls. A dividend mine wherein shares are required for investment is safer to buy so as to pay only 10 per cent., with a prospect of increasing to 20 per cent., than one which is paying 20 per cent. by being worked too hard, and with probabilities, therefore, of falling off in a year or two.

In progressive mines there are always points to be noted and watched, and it is by knowing when certain points are expected to come off that speculators hit the right time in buying.

EAST CARADON, MARKE VALLEY, and WEST ROSE DOWN—Monday, April 29. I spent the greater part of this day going over these mines, accompanied by Capt. Secombe and the Chairman of the three companies. EAST CARADON is in Linkinhorne, and held on lease for 21 years (about 13 years to run), at 1-18th royalty. The late company drove a species of erratic adit for a considerable distance without meeting with the caunter lode, sunk the north shaft 12 fms., and then abandoned the mine. When the Salisbury Company took the sett, Capt. Secombe took up the old adit, but commenced driving the contrary way (south), and in about 40 fathoms cut the caunter lode of South Caradon. An engine-shaft was then commenced from surface, and at 50 fms. under adit, or 70 fms. from surface, the rich course of ore was met with. The lode in this level has been opened upon for 100 fms., through a continuous course of ore, worth on the average 50l. per fm.; the western end now being near the boundary, and the eastern end worth 12l. per fm. This is supposed to be the longest and richest course of ore in Cornwall without a break in the lode. About a month ago the lode was cut in the 60, and here it has been opened upon about 6 fms. east and west, worth on an average 60l. per fm., and supposing this ore should continue rich for the length that it did in the 50, it is calculated there will be at least 50,000l. of ore to take away at a trifling cost. Above the 50 the backs are worth about 10,000l. It will take about twelve months to cut this course of ore in the 70, during which time another engine will be erected. The next dividend will be 10s. per share for the four months, and we hear it is fully expected it may be given every two months. In the sett there are about twelve other lodes, of which two (Fawcett's and Simmons's) have been seen in the 50; the former yielded good ore, but little has been done upon it at present. The latter lode has been opened upon for 3 or 4 fathoms only, and yielded $\frac{1}{2}$ ton of copper ore per fathom. The cross-cut is still being extended north to intersect other lodes. It will be seen from these remarks that not only is the mine at present very rich, but it has great prospective advantages, and is likely to become the richest mine in the county.

MARKE VALLEY, also in Linkinhorne, on the north side of the Caradon Hill, is a very large sett, at present paying moderate dividends, but with good prospects of increasing them, as while the returns are about 300 tons of ore per month, the reserves are being greatly increased. The operations are being carried on upon Marke's lode, Rose Down lode, and a new lode lately intersected in a cross-cut from the Rose Down lode, at the 80, from Salisbury shaft. Upon this new lode 16 fathoms have been driven, varying from $\frac{1}{2}$ ton to 3 tons of copper ore per fathom. On the old lode in the eastern workings about 62,000l. worth of ores was raised from the 65, and the lode will soon be cut at the 100, under where this large body of ore was met with. This is an important point, and would have been reached some time ago but for a breakage in the machinery. The mine may be said to be a good and safe investment for increasing dividends.

WEST ROSE DOWN.—This is about one of the largest setts in Cornwall, and takes the ground between Marke Valley and East Caradon, and also the Old Caradon and Wheal Jenkin Mines on the north side of the hill. An adit was commenced to intersect the Rose Down and Marke's lodes of Marke Valley, and after being extended about 40 fms., another lode was found, 4 feet wide, of as promising a character as any cut in the district; this is now being driven upon west, and the adit continued south to intersect the other lodes. There is no machinery at present, but the sett is not only of great extent, but of great prospective value. The lode cut, from its fine gossan, is supposed to be the new lode of Marke Valley, and one likely to make ore at a shallow depth. A shaft will soon be commenced upon it.

These three mines are under the management of Captain Secombe, of Menheniot, a gentleman not only of great practical talent and experience, but of sterling honour and integrity, and the shareholders may depend upon having the mines fairly and legitimately worked, and of always having true and faithful reports.

SOUTH CARADON WHEAL HOOPER.—Upon entering the Caradon Common, from the Menheniot-road, and looking at the engine-houses (apparently all within a short distance of each other) of South Caradon, East Caradon, and South Caradon Hooper, it would seem as though the latter mine, small as it is, is in a splendid position, but at present nothing has been found of any importance. The sett is on the slope of the hill, just to the south of South Caradon engines, and a little to the west of East Caradon, but not on the run of the rich lode. The shaft is down 80 fathoms from surface, the last 10 fathoms being on the course of the lode, which is small, but showing signs of copper. The 62 is being driven east and west on another lode, and the 47 cross-cut extended to cut any others in the sett. At present the mine is poor, but, of course, a good lode in the shaft would

cause some excitement, if only from the nature of the district, and this may be met with some day.

Immediately to the east of East Caradon, and on the run of the rich caunter lode (by the way, this so-called caunter runs nearly due east and west), is a mine called GLASGOW CONSOLS, worked, as I understand, by a Glasgow company. It was formerly a part of Tokenbury, and is by far the prettiest sett, and one with the best prospects of any young mine in the district. It seems extraordinary that the well-known acuteness of the Liskeard people should have allowed the Scotchmen to get hold of such a sett. I must say I stopped at every point of the hill to gaze upon it, and regretted I had not time to go and ask the agent a little more about it. The Old Tokenbury was worked to a great depth some distance to the north-east, and was in killas, but the Glasgow company working the ground close to East Caradon are in granite.

ST. AUSTELL, APRIL 30.—We stopped here on our way to the West, to look at two mines which are now causing some talk in Cornwall, and one of which I had not before heard of under its new name, and, as I did not receive Saturday's Journal, was not aware that a notice and plan of it had been published—I refer to West Polmear. We went first to WHEAL POLMEAR, which is a large sett lying between Charlestown and St. Austell, and holds out the promise of becoming a valuable dividend mine. There are 256 shares, upon which about 14l. have been paid up, and the price now 220l. The workings are being carried on upon five lodes, none of which have yet been seen below the adit, which is 32 fms. deep. Above this adit ore to the value of 16,000l. has been sold, and at present the mine will pay cost, so that no more calls are likely to be made. The works are being well laid out, and some of the lodes yielding some of the finest rocks of ore I ever saw. Of course, everything depends upon cutting the lodes below the adit, but there is little fear of their proving rich, and I shall fully expect to see the mine pay good dividends in 1862. It is under the management of the well-known Captain John Dally, and he and Captain Barrett, of Charlestown, are the largest shareholders in the mine.

WEST POLMEAR was formerly worked for tin close to the town of St. Austell, under the name of Carvath; it has been put to work in another part of the sett by Mr. West, the well-known engineer, and Capt. Clymo, of South Caradon, the machinery upon it being valued at 2000l. The present operations are a long way from the old works at Carvath, and have been commenced, of course, owing to the richness of Polmear, the five lodes of which run through West Polmear, making it a good speculation. The shaft is 100 fms. from the boundary of Polmear, and down 20 fms. below the adit of 15 fms., and a cross-cut driving towards the Polmear lodes, the first of which will be cut in about three or four months, in a fine channel of ground for mineral. I had the advantage of going over both mines, and seeing every part of them, with Captain Secombe, of East Caradon, who had been offered shares in West Polmear, and went to see the mine before deciding upon taking them. His opinion of the mine is favourable, and he considers it a fair speculation; and as he took the shares offered him, I think that fact speaks a great deal in its favour. As I have to scribble these notes whenever I can get five minutes to spare, you must take them in the rough, to be polished up hereafter perhaps; and I hope next week, before returning to the Caradon district, to give you some particulars of the Camborne and other mines.

THE IRON TRADE, AND ITS PROSPECTS.

The present position of the iron trade presents a favourable opportunity for considering the best course to be pursued to secure the largest amount of prosperity for the future; not only must the ironmasters be careful to produce the best quality of iron which the ore at their disposal is capable of affording, but they must exert themselves to their utmost to open up new channels for the consumption of the greatly-increased quantity which the various new iron fields from time to time being opened out are capable of supplying. The Cleveland iron district is already producing large quantities of excellent iron ore, and there now appears to be a probability that Wiltshire will further add materially to the annual yield. It is acknowledged that in the Cleveland district, as in some parts of South Wales, the ore is raised from beds near the surface at a cost little exceeding 1s. 6d. per ton, and it is estimated that at Seend it will not exceed 1s. With such facilities for the production of ore it is apparent that the great point upon which rivalry in the several districts must turn is the process of manufacture. Every means must be adopted to produce the largest quantity of finished iron from the minimum of raw material, and likewise to utilise every product, chemical or otherwise, yielded in the course of the operation. Perhaps there is no field in which there is more room for the extension of the use of iron than in the construction of ships, and now that Government has made a move in the matter it behoves all connected with the iron trade to use their best efforts to procure the exclusive use of iron—a change which would be no less beneficial to the country than to the ironmasters. A committee, consisting of officers representing each branch of the service, eminent scientific men, and engineers, was recently appointed by the War Office to consider the best means of applying iron to defensive purposes in connection both with military operations and ships of war. This committee is now busily prosecuting important labours, and is desirous to receive assistance from iron manufacturers and scientific men in all parts of the country.

The points on which the committee are specially anxious to obtain information are—1, the qualities of iron most capable of resisting projectiles at high velocities; and 2, the best mode of attaching armour plates to vessels of war. In reference to the latter point, the committee particularly desire to receive plans for incorporating with the structure of vessels plates capable of resisting shot, instead of merely affixing them to the surface, and thus only adding to the dead weight of the ship. With regard to the manufacture of iron, there are several branches in which much more attention should be given to quality than is given at present. It has been already proved that a high-class trade may be remunerative to the ironmaster, and the use of good iron certainly is much more satisfactory to the manufacturer. May it not, then, be presumed that the thoroughly practical projects which have been brought forward for constructing cheap and efficient ships only require to be kept permanently before the public to ensure a permanent and considerable demand for iron for ship-building purposes alone? The requisite properties of good iron or steel are well known, and such rapid strides are now being made in the science of iron-making that we are bound to anticipate a near approach to perfection at no distant period.

ECONOMIC GENERATION OF STEAM—ROTATORY BOILER.

The vast improvements from time to time introduced in the generation of steam almost causes us to look upon novel and more efficient contrivances as the natural result of time, whilst the acknowledged fact that we are still far, very far, from perfection should be sufficient to guard us against exhibiting too great an amount of incredulity. On Thursday we witnessed the practical working of a rotatory boiler, invented by Dr. F. Grimaldi, of Naples, and readily affirm that the improved arrangement offers many and important advantages. The boiler in question is a 3-horse, and in shape is cylindrical, with curved ends, upon which trunnions are affixed, to enable the boiler to be rotated through the stuffing-boxes provided in the brickwork in which the boiler is set; the steam and water-supply pipes pass through the trunnions, so that almost the entire surface of the boiler can from time to time be exposed to the action of the heat. The extreme length of the boiler is 19 in., and its diameter 18 in., ordinary boiler-plate being used in its construction. The furnace is so arranged as to form a square chamber, with a cylindrical one above it; and it is in this cylindrical chamber that the boiler rotates, the lower side of such boiler dipping well into the square chamber; the grate-surface is 16 in. by 12 in., and the diameter of the cylindrical chamber is about 2 ft., five inches being the depth of water kept in the boiler; the water is supplied by jets, below the water-line, at each stroke of the feed-pump, and the steam before being used in the engine is passed through a second vessel fixed in the flue with which the top of the boiler-chamber communicates in order to superheat it; this superheater can, of course, be dispensed with if required.

Perhaps the greatest advantage possessed by Dr. Grimaldi's boiler is that as the fire acts upon every part of the boiler in succession, instead of upon a single point continuously, it promises increased durability, but it must also be stated that the mere rotation is likewise productive of considerable economy—thus with the boiler mentioned it was found to be equal to fully 12 per cent. the steam-gauge showed 72 lbs. pressure when the strap was thrown off by which the rotation is effected, and in three minutes the pressure had fallen to 64 lbs.; the strap was then replaced, and within three minutes of replacing it the former pressure of 72 lbs. had been regained. During the whole time of the experiment neither the fire, fur-

ance, nor machinery were interfered with in any way whatever. Mr. Knowlton (engineer and machinist, Chapel-place, Long-lane), upon whose premises the boiler has been fixed, assures us that the consumption of coal was 122 lbs. in 6 hours, and that he has proved by actual and careful trial that 90 gals. of water were evaporated during that period, and he anticipates that with trifling modifications in the arrangements which have suggested themselves since the boiler has been in use—this being the first boiler made—he will be enabled to obtain results nearly twice as favourable. The great success attained may, it is said, be attributed to several circumstances: the entire shell of the boiler becomes heating surface to the water itself when the boiler is rotated, whilst in the case of its being permitted to remain stationary the heating surface for water is necessarily limited to the water level, the remaining portion of the surface being applicable only to the superheating of steam already generated. Where space is limited the invention would be invaluable, a Grimaldi boiler 19 in. long being equal to an ordinary boiler of 6 feet, other dimensions being proportionate; and as to the fear expressed that a rotatory boiler would be objectionable, as in case of accident to the rotating gear the resources would be reduced to a dangerous extent—a boiler of one-eighth the ordinary size—we think, it is groundless, the power required for rotation being very small, and the chance of accident being so little that practically it need not be taken into more careful account than any other portion of the machinery, whilst the time required to repair any such accident would be unimportant. Lastly, as to cost, it appears that the first outlay would be about the same as for an ordinary tubular boiler of the same power; but as the durability of the boiler is much greater, the result would be eminently in favour of Dr. Grimaldi's invention.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MAY 2.—No change can be reported in the state of the Iron Trade. The position of affairs in America naturally checks improvement, but the trade is no worse, which is so far satisfactory. Of the Hardware Trades the same remarks may be made.

The results of the Census naturally create considerable interest in the district, as they demonstrate the direction of the population and the material progress of the community. In the township of Wolverhampton the increase within the last ten years is 20 per cent.; this increase is attributed mainly to the greater number of persons engaged in the hardware manufactures. In parishes where the mines are still extensively worked there is a considerable increase, as, for instance, in Wednesfield and Willenhall, which, lying on the edge of the coal field, have only recently had their mineral wealth developed. In Willenhall the population has increased from 11,931 to 17,354, or nearly at the rate of 45 per cent. In Wednesfield the increase in the ten years is actually 77 per cent. A singular contrast is presented in Bilston; in that town the increase within the last ten years is only at the rate of 37 per cent. This is readily explained by the fact that the mines at and near Bilston are nearly worked out, and that numerous failures have occurred there of proprietors of mines and iron-works, thus greatly reducing the means of employment. In Sedgley parish, in which a good deal of mining is going on, as well as the manufacture of heavy hardware, chains, nails, &c., the increase is 24½ per cent. In Kingswinford the increase is at the rate of 20 per cent.; in King's Norton, 65 per cent.; in West Bromwich, 21 per cent.; in Dudley, which has suffered considerably from depression in the iron trade, 18 per cent. In Falsall and Bloxwich, which are part of the plateau of Cannock Chase, where the coal is being developed to a large extent, the increase is very great; in Falsall it is 66 per cent., and in Bloxwich 88 per cent. On the whole, the returns, so far as they have been yet made public, show that the increase in the population is steady, but considerably slower than when the iron trade was rapidly growing.

Two men, named John Kavanagh and John Davis, were killed, on Thursday last, in a mine at Dalry Bank, the property of Mr. Philip Williams, by a fall of coal. The evidence of witnesses called on the coroner's inquest was to the effect that at the time the fall took place there was a deficient supply of timber in the pit, although there was plenty on the bank above, and that the accident was caused by the want of a proper support for the coal. Mr. Baker, the Government Inspector, was present, and expressed his general concurrence in this view, but at his request the enquiry was adjourned, in order that a plan of the workings might be placed before the jury.

Thomas Barrow, an engine tender, employed at the Pinnox Colliery, in North Staffordshire, has been convicted under the 26th special rule, established under the Coal Mines Inspection Act, for neglecting to be at his engine at the proper time to work it, so as to let down the men, &c., thus preventing two pits' companies, it was stated, from working for the whole day. It appeared that this was not the first case in which he had committed the offence complained of, and he was sent to prison for three months.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

MAY 1.—The aspect of American affairs is particularly gloomy, and the latest accounts of the war indicate a state of things which, for some time to come, must have a depressing and disastrous effect upon trade. A general dullness pervades the Iron Trade, and there is an absence of animation in nearly all departments. For plates and rails there is a steady enquiry, but as regards other branches of the trade but little is doing. The demand for pig-iron is dull, and during the week several furnaces have been blown-out in Yorkshire, and others are likely to be put out, unless there be a better prospect of immediate improvement.

The Coal Trade is tolerably active for the season, but in many parts of Derbyshire and Lancashire a dullness prevails. In the latter county on account of the stoppage of machinery occasioned by the strike. For export there is a good enquiry for hard coal for steaming our merchant vessels, and for home consumption a good demand exists for locomotive purposes, on account of its substitution for coke. The turn-out colliers at Woolley, near Barnsley, have found it an expensive process to apply to a Judge in Chambers for bail under a charge of riot and conspiracy, for which they are committed to take their trial at the next York Assizes. An order for bail was granted, each in a sum of £50. On Wednesday the friends of the men in custody offered, and the greater part of the day was occupied in examining the fitness of the sureties offered. Mr. Barrett, of Leeds, appeared for the proprietors of the colliery, and Mr. Freeman, of Huddersfield, represented the men in custody. In five cases bail was accepted, and in the case of the other two it was rejected as not being satisfactory.

Several accidents have occurred since our last of a very serious nature. On Saturday the sinkers at the new colliery at Thryberg, near Rotherham, were boring for the coal, and the head sinker, George Jagger, had prepared the shot, which did not go off. He poured some water down the hole, and was in the act of drilling to the powder when an explosion took place, which nearly blew off both his arms, deprived him of sight, severely cut his face, and so badly injured him that he died on the following morning. The other men were burnt, but not fatally.—On Tuesday an inquest was held at Barnsley on the body of a boy named Joseph Smith, who was employed as a hurrier in the Oaks Pit, and was killed by a quantity of coal falling upon him whilst he was at work.—An inquest was held to-day at Reinslaw, Derbyshire, on the body of a collier named Francis Wardley. The deceased and others were at work in a stall in Clarke's Pit, when a quantity of the roof of the pit fell upon Wardley and a man named Vernon; assistant was soon obtained, and Vernon was rescued alive, but Wardley, who was buried under the roof, was dead before he could be extricated. There was a "throw" in the roof, and it is believed that it forced out the panel and let the roof down. Verdicts of "Accidental Death" have been returned in each case.

The new railway between Kewley and Buxton, which is to connect the link of rails between London and Manchester, by the Midland system, is progressing rapidly, and the line is now just on the town of Bakewell. The mining community in the Peak of Derbyshire look forward to the completion of this line with no small degree of interest, as it will afford an exit for minerals, and will bring a supply of coal at a rate considerably less than can now be obtained, especially in the remote districts.

There was a meeting of the North Derbyshire directors, at Calver South, to-day. They duly inspected the works which are being carried out by the contractor, who is putting down a new set of pumps to enable him to raise a greater quantity of water. The calls are being paid tolerably well, but as the stock is so low in the market it is not surprising that many shareholders, whose patience has been exhausted, should forfeit their shares rather than continue the payment of calls. The directors have still great confidence in the mine, and in the course of two or three weeks they anticipate getting the vein. The Midland Mining Company are doing well, and getting a good quantity of ore. If the company and their neighbours would only settle their differences without the aid of litigation, we should have a still better prospect to report. The Peak United Mine is improving, and, on the whole, there is a more confident tone prevailing of the prospects of several other undertakings. There is no lack of capital or enterprise, and if the great North Derbyshire should suddenly turn up a trump card, it would give such an impetus to the development of Derbyshire lead mines as has not been experienced of late years. The Eyan Mine is improving, and if the present favourable indications should continue it will add to the confidence felt in the productive capacity of lead mines of the Peak. The Mining Share Markets are flat, and there is little enquiry for any stocks.

SOUTH WALES.—Our Aberdare correspondent writes:—During the past month we have had weather of almost unparalleled splendour, and we have been encouraged to expect an early spring; the money market has relaxed, and in this and surrounding neighbourhoods a partial return of activity has exhibited itself in the coal trade, and a revivification of the sister trade has been deemed probable enough to make people hopeful. Masters have, doubtless, been looking at things in this light for months past. They have been "hoping against hope," and the struggle with a fairly difficult one; for instance, it is known that orders for rails have been executed at a loss of more than 1000l. on every 1000 tons. Marketable rails can scarcely be delivered (f.o.b.) at Newport, Cardiff, or Swansea, for 6l., and yet I know that for some time orders at 5l. per ton have been readily taken up and executed—obviously only to prevent a cessation of employment. Last week's shocking intelligence from America, and the continued dullness of the chief markets, have at length brought things to a crisis in this district, and a general reduction of wages at the principal works may be expected in a month's time. On Saturday last, I heard on reliable authority, notice was given at the chief iron-works in this valley that "all contracts, agreements, and wages will cease and determine in a month." A similar notice has, I am told, been given this week or two at the Aberaman Works, and a partial reduction has already taken place in the Gady's Works. The Dowdalls, Ebbw Vale, Rhymney, and Tredegar Companies are about taking, or have taken, similar steps, and there are reasons to fear that most of the coalowners will be obliged to "follow suit." The exact amount of the reduction is not yet known, but there is no doubt it will be at least 10 per cent. It is scarcely necessary to state that great consternation has been occasioned by these deplorable announcements on the part of the employers. Provisions—especially meat, cheese, and butter—are still ruinously high, and the working classes have more than they can do to live on their present earnings. How they are going to manage things after "the reduction" heaven alone knows! Agents and masters are deeply sensible of these facts, and in using the pruning-knife, I have no doubt, much discretion and considerable feeling will be exercised. On Monday the locality of Cwm-dare was the scene of considerable rejoicings, in consequence of Messrs. Roberts and Jones having succeeded in "proving" the 4-feet vein of steam coal. In the

course of their sinking operations these fortunate gentlemen have passed through three workable beds of good coal, in addition to which there appear to be two other seams of coal already proved. The much-prized 4-feet vein was reached at a depth of 75 yards, and proved—though the statement may appear paradoxical—to be 5 feet in thickness. Our Llanelly correspondent writes:—The Llanelly Dock is at present full of ships, many of considerable tonnage, waiting for freights of coal. The trains on the Llanelly line are running four times a day, and there are often 90 trains after the engines, each train carrying on an average 3 tons, making 270 tons by each train. At this rate 1080 tons a day would be loaded to the docks. The St. David's line has sent down from the Brynnydd Colliery, in the last fortnight, 1475 tons. Other pits in the district are doing as well. The tin-works are in full employ, all the furnaces having been lighted, after being out four months. Business at the potteries, however, is at present rather dull.

The vessels arrived in harbour from foreign parts in the week ending April 27 include—*Acacia*, from Talait, with 615 tons of copper ore, for Bath and Sons; *Leviathan*, from Cuba, with 80 tons of old copper coin, for Vivian and Sons; *Augusta Schneider*, from Cuba, with 527 tons of copper ore, for the Coburn Mining Company. During the same period, 87 vessels sailed hence, with 22,511 tons of coal and patent fuel for foreign parts, of these the following were above 300 tons:—*Chelydra*, for Calcutta, with 400 tons of coals; *Germania* (S.S.), for Rochelle, with 550 tons of Warlich's patent fuel; *Royal Bride*, for Montreal, with 550 tons of anthracite coal; *Star of the West*, for Coquimbó, with 480 tons of coal, and a miscellaneous cargo; *Countess of Bective*, for Cuba, with a miscellaneous cargo, and 250 tons of coal; *Sella*, for Ferro, with 319 tons of steam coal; *Andreas*, for Barcelona, with 376 tons of steam coal; *Lord Dufferin*, for Bonny, with 774 tons of Warlich's patent fuel; *Harraseekis*, for Cape de Verdes, with 1230 tons of steam coal and 524 tons of patent fuel; *San Guisto*, for Trieste, with 470 tons of Duffryn steam coal; *Navisick*, for Constantinople, with 338 tons of the best steam-coal; *Tahrenheil*, for Malaga, with 563 tons of steam coal; *Pacific*, for Hamburg, with 310 tons of Resolvent steam coal; *Margaret*, for Cadiz, with 528 tons of Forchmann Merthyr steam coal; *Etheibert*, for Calcutta, with 546 tons of smelting coal, and a miscellaneous cargo; *Luciano*, for Cagliari, with 365 tons of steam coal; *Joseph Peabody*, for Shanghai, with 1600 tons of Warlich's patent fuel; *Maria*, for Barcelona, with 330 tons of Warlich's patent fuel, and sundries; *Duguesne*, for Oren, with 350 tons of patent fuel; *Deo Adelphi*, for Corfu, with 376 tons of steam coal; *St. Louis*, for Hong-Kong, with 773 tons of Warlich's patent fuel; *Chetain*, for St. Thomas, with 400 tons of large steam coal; and *Mildradis*, for Syre, with 376 tons of Duffryn steam coal.—*Swansea Herald*.

COPPER MINES OF LAKE SUPERIOR—No. V.

THE NATIONAL MINE.

The tract forming the National Mine immediately adjoins the western line of the Minnesota Company's lands, and carries across its whole breadth the continuation of the same mineral veins. The agricultural and mineral lands of the company consist of 1700 acres, all in one body, well located, and admirably adapted to the business of mining, by reason of the excellent quality of the timber, and the abundant supply of water for washing mineral, use of engines, &c. From 1854 to 1858 the company has expended for mining works, machinery, and improvements \$110,147; and the sales of copper for the same period amount to \$88,648. All the efforts of the company for the last two years have been almost exclusively confined to the development and opening of the ground adjoining the Minnesota Mine. The vein upon which nearly all the efforts have been expended is the continuation of the Minnesota vein, and is known as the south or conglomerate lode. Usually the opening of new ground is a very costly and unproductive business, and the whole time occupied in preparing for more extended and productive operations is commonly regarded as indispensable, in advance of any very efficient demonstration towards working a mine profitably. The instances are rare in which these preparatory labours in mining are performed at a smaller outlay than \$100,000 over and above the returns from the copper obtained in the operation. The National is a remarkable exception to this rule, having realised from the close of navigation in 1858 to Aug. 1, 1860, a net profit of 10 per cent. mineral, worth, including all expenses of transportation, smelting, commissions, &c., not less than \$210,000, thus not only relieving stockholders from assessments to defray the cost of opening the new mine, and providing additional machinery, but leaving a handsome surplus of \$83,734 45c. Extracts from John Chynoweth's (mine captain) report:—One of the most important works of last year was the driving of No. 3 adit, which is within a few feet of the division line between the National and Minnesota properties. This adit is now a complete and effectual drainage for a depth averaging over 200 ft. below the surface for its entire length. All the shafts are now connected with the adit, and Nos. 1, 2, and 4 are sinking below that level. Until the last two or three months the stopping was principally at No. 1 level, but since the completion of the adit an immense amount of ground is laid open, which will accommodate a large stopping force until deeper levels may be attained. The success in raising copper for the past year, as compared with previous years, shows a very favourable result. We noticed a very productive piece of vein at No. 5 shaft. The amount of copper taken from this point of working for the past year is nearly 120 tons, and the vein is still yielding mass copper in good quantities, and according to present appearances will continue to be productive through our future operations. No. 4 shaft was very productive at No. 1 level. Stopping at No. 3 adit has only been commenced about two months, therefore mass vein has been taken down, but judging from present indications we can safely calculate on a profitable block of stopping ground between the two levels. The vein here is 5 ft. wide, containing mass, barrel, and stamp copper. At No. 4 level we shall not be prepared to stop to any great extent for two or three months. The shaft is now rising from that level towards No. 3 adit, and will be through, as above noticed, in about one month. We expect good stopping ground in this locality, as copper has been taken from the rise to leave a good profit on the cost of raising. No. 3 shaft has been sunk very slowly, it being now only at the adit level; this tardiness of sinking has been caused by the frequency of heavy mass copper in the way, there being at present a large amount of copper protruding from the bottom of the level, extending from the shaft about 50 ft. eastward. We think it advisable to stop the ground and take away the copper before sinking should be resumed, as large pieces of copper must be hauled to the surface, which could not be so conveniently done afterwards. The vein in this place is about 10 ft. wide, and is at present one of our richest points of working, and the prospects for a deeper level are, consequently, very encouraging. No. 2 shaft is now about 50 ft. below the adit. The vein at this point has not yielded a great amount of copper. Stopping has been done at No. 1 level, and also at No. 3 adit, but not with a very good result. The vein is large, and at particular points contains copper in paying quantities; but we have often found that the openings made by a shaft or drift are not sufficient to prove the value of a large piece of ground, as good deposits of copper may be hid but a short distance from our present excavations, which can only be discovered by perseverance and further explorations. No. 1 shaft has been more productive, although not equal to Nos. 3 and 4. No. 1 level is considerable stopping is done at both levels, with pretty good success; and at No. 1 level a mass was found which weighed 25 tons. Other masses of less dimension are frequently found, but the large size of this mass is a very good indication of the value of the vein, which has produced copper at a very profitable rate, the shaft being about 55 ft. under the adit level. The amount of work done for the year, amount of copper produced, expenses for each month, and average miners' wages, are shown in the following statement:—

Months.	No. of miners.	Sinking.	Drifting.	Stopping.	Copper raised each month.	Monthly mining expenses.	Average miners' wages.
1859, July.....	76	5 ft. in.	173 ft. 0 in.	63 ft. 23 in.	80,341	\$ 5,123 39	\$32 92
August.....	84	81 ft. 11 in.	110 ft. 7 in.	75 ft. 27 in.	80,604	5,296 00	32 69
September.....	82	16 ft. 2 in.	134 ft. 6 in.	75 ft. 30 in.	80,400	5,178 69	32 67
October.....	97	24 ft. 0 in.	199 ft. 7 in.	70 ft. 22 in.	101,832	5,592 56	31 03
November.....	113	23 ft. 0 in.	344 ft. 9 in.	106 ft. 23 in.	63,987	6,697 99	33 60
December.....	110	79 ft. 2 in.	269 ft. 3 in.	94 ft. 2 in.	66,153	6,704 94	34 46
1860, January.....	125	60 ft. 9 in.	321 ft. 1 in.	132 ft. 10 in.	73,314	7,354 99	36 97
February.....	125	60 ft. 9 in.	321 ft. 1 in.	132 ft. 10 in.	73,314	7,354 99	36 97
March.....	118	60 ft. 9 in.	321 ft. 1 in.	132 ft. 10 in.	73,314	7,354 99	36 97
April.....	106	16 ft. 0 in.	25 ft. 7 in.	110 ft. 9 in.	130,645	7,079 34	33 17
May.....	121	21 ft. 6 in.	58 ft. 6 in.	208 ft. 10 in.	100,310	7,821 57	34 57
June.....	118	66 ft. 0 in.	208 ft. 10 in.	237 ft. 30 in.	119,344	8,973 63	34 00
Total.....	102	444 ft. 8 in.	1964 ft. 7 in.	1468 ft. 31 in.	1,134,596	\$81,487 85	33 72
Average.....	102	444 ft. 8 in.	1964 ft. 7 in.	1468 ft. 31 in.	1,134,596	\$81,487 85	33 72

The average yield of copper per fathom, according to the number of fathoms stopped, added to the number of fathoms contained in the openings, is 584 lbs., showing the improvement that has taken place, as the yield per fathom for the previous year was only 300 lbs. The product of copper mineral yielding 75 per cent. of ingot was 323 tons for 1859, and 721 tons for 1860. The mine is open, and underground works well prepared for a larger production in 1861. The average price paid for different kinds of work is—For sinking, \$11 per ft.; for drifting, \$5 per ft.; for stopping, \$8 per ft. The number of labourers employed with the underground department will average about 70, which includes those employed in selecting and cleaning copper, making kilns for burning the rocks, &c. There is besides a large amount of work about the mine, which this class of men perform, that cannot well be enumerated, and, therefore, the number engaged on a particular kind of work is not constant, but according to the necessity of the case, their average wages being about \$26 per month.

Our present steam-power consists of one 17-in. cylinder hoisting and pumping-engine. There is one 16-in. and one 10-in. cylinder engine, both of the portable form, and built by Messrs. G. M. Bird and Co. of Boston, whose engines, for their size and style, give very great satisfaction. The improvements on the surface have materially increased the surface expenses during last year; the improvements consist of eight frame dwelling-houses, twenty log-houses, three engine-houses, two copper-houses, one office, one warehouse, one carpenter's shop, six shaft-houses, with pulleys, chains, and kibbles, two barns, one saw-mill, one powder-house, two smiths' shops, one stamp and wash-house, two change-houses, one warehouse, and dock at the river landing.—Machinery: One large stationary engine; one engine for saw-mill, stamps, and machinery; one large portable engine and pump; one small little, two pumps, and gearings. We have now over 100 acres of land under cultivation, and the product of the farm for the last year was—100 tons of hay, 50 tons of oats, 1600 bushels of potatoes, 1200 bushels of turnips, besides a large lot of vegetables of all kinds. Farming, doubtless, never will be the principal pursuit of the people of this peninsula, yet this branch of industry is being inaugurated, and may increase with great profit with the rapid development that exists of the mineral interests. Our lands also supply timber for the mine and other uses, wood for engines and families. The population of the National Mine is 326, and the company will soon be under the necessity of putting up some more new dwelling-houses for the accommodation of the men.

The mining works are under the superintendence of Capt. John Chynoweth, from Cornwall, who is deserving the full confidence of the company by his energetic and skilful co-operation in developing the mineral resources of the National Mine. To Mr. Wm. Webb, the able manager, the company is largely indebted for his faithful services and untiring efforts, to which a great part of the success thus far obtained is due. The board of directors of the National Mining Company declared and paid their first dividend last January, amounting to \$2 per share, and besides they have a handsome surplus in the hands of the company's treasurer. The capital stock of the National Mine is \$500,000, divided into 20,000 shares of \$25 each, on which \$500,000 only have been paid-up by the original stockholders. The shares are now quoted at the Mining Boards of Boston and New York at \$29 to \$30; this low price is occasioned by the political difficulties. We predict that these shares will be up to \$40 by August next; the price of that stock last November, before the political crisis, was \$40 to \$42. To let you judge, reader, of the wealth of the metalliferous veins of Lake Superior, in the limited area of territory of about one mile to the north and a half in length there are three mining companies working the veins—the Minnesota, the National, and the National; the product of copper for the three companies is from 325 to 350 tons per month.

I will conclude by saying to English capitalists, fond of good and cheap investments,

come up Lake Superior this summer, visit the mines, and examine for yourselves; you will be welcomed and well received by our best citizens; by your own countrymen, who are the managers of many of our most valuable mining establishments; and every facility will be afforded to you, without fatigue and privations, for a thorough examination of that wonderful country. From New York to Detroit, 36 hours by rail, fare \$12. From Detroit to Lake Superior, you take passage on board of those magnificent floating palaces—lake steamers, where you are accommodated with comfortable state-rooms, epicurean table, and pleasant company; the voyage lasts three days, price \$10. At Lake Superior, in the ports of Marquette, Copper Harbour, Eagle Harbour, Portage, and Lake Ontonagon, you can put up and be well accommodated at the different hotels, kept in very good style, and board can be had at the moderate price of \$1, \$1 50c., and \$2 per day. No excursion can be more romantic, pleasant, and healthy. Such is the bracing and life-giving power of the summer air, that it has become more than a Saratoga or the jaded business man and the invalid; and in almost every instance those who have thus sought renovation and life have been rapturous in their praises of its invigorating influences; the vitality and life it imparts are a positive luxury.

Agent of the Ontonagon Mining District Association (Lake Superior).

TRUTH'S ECHOES; OR SAYINGS AND DOINGS IN MINING.

The account-day on Tuesday, and the half-yearly holiday in the Stock Exchange on Wednesday proved innovations on the general business of the week, otherwise there is every reason to believe that an average amount of share transactions would have been negotiated; notwithstanding, there appears to have been an active market, although the excitement of the week has been confined to large transactions in a few favourite mines, such as EAST GREENVILLE, in which heavy dealings have taken place.

The advance in the price of tin, and the prospects of a further improvement, have created an active enquiry for shares in most of the tin mines. EAST BASSET and WHEAL BARNET shares have changed hands at lower rates. SOUTHERN FRANCES shares have been dealt in, but more freely offered. EAST CARN BREA and CAMBORNE VEA shares have been in good demand, at market prices. STRAT PARK shares have slightly improved, and a fair enquiry still maintained. WEST SETON and WHEAL SETON shares have been required for. NORTH CROFT, WEST FRANCES, and NORTH DOWNS shares have changed hands. WHEAL MARGARET, PROVIDENCE, GREAT WHEAL FORTUNE, WHEAL KITTY (Leland), and WENDRON CONSOLS shares have been in good request, and transactions taken place at improved prices. WEST CARADON shares have been more freely offered, at lower rates. EAST CARADON shares have not been so extensively jobbed in during the week, and although quoted lower for account, first buyers at better prices have been secured. There was a scarcity of shares on the account-day. MARKE VALLEY shares have been dealt in, and continue firm at present rates. WHEAL LUDCOTT shares maintain their prices, and are still scarce. HERODSFOT shares are firm, and in demand. TRELAUNY and MARY ANN shares are more freely offered, at lower rates. SOUTH CARADON WHEAL HOOPER shares have been freely dealt in. EAST RUSSELL shares have found buyers at present quotations. LADY BERTHA shares have been in good demand, and a rise has consequently taken place from the improved prospects of the mine. SOUTHBIDGE CONSOLS shares continue very inactive. NORTH WHEAL ROBERT shares have changed hands at very low prices. EAST WHEAL GREENVILLE shares have continued throughout the week the chief stock of daily transactions, and although the prices have hourly fluctuated they have generally returned to the highest quotation. WHEAL GREENVILLE shares have been in firm request. UNITY shares have been largely dealt in, and at higher rates. WHEAL MOTYLE shares have been in good request, and several transactions followed at higher rates.

At EAST CARADON, the lode recently intersected in the 60 continues to look well, no change has taken place for the past fortnight; in driving east it is worth full 70l. per ft., and west 58l. The 50, going east, is 5 ft. wide, and looking very promising to improve; it is now worth 12l. per ft. All the other places are wither in the same way. At the next monthly sale upwards of 300 tons will be sold, which will probably leave a profit of more than 1100l. for the month. At MARKE VALLEY there has been no change to notice since my last remarks, and the mine throughout continues to look remarkably well, all the productive places returning the usual quantity of copper ore. They calculate on sampling for the coming month full 300 tons, exclusive of the 50 to 60 tons left out last month.

WHEAL LUDCOTT is looking better generally. There are several places where good improvements have taken place; and the lode in the 84 north is very much improved, consequently the returns are likely to be augmented.

At EAST DEVON GREAT CONSOL, the lode in the 40 west continues large and highly promising, producing good stones of copper ore, and on approaching the cross-course a great improvement is expected. The sinking of the engine-shaft is progressing favourably. LADY BERTHA is represented to look better in several places, where the lode is large, and returning fair quantities of ore, and in some places the ore is of better quality. WHEAL EDWARD continues to look remarkably well, and progressively improving in several important places. Although the quality augments, the quality has not as yet improved in the aggregate, to make it what it is hoped to be—of a good and even quality.

At GREAT TREGUEN, the lode in the 80 west is large, and producing good saving work; from the general character of the lode, and the appearances which now present themselves, there is every reason to believe they are approaching a great course of ore. At GREAT RETALLACK, there is no improvement worthy of notice; the quartz which has shown itself in the 35 appears to increase in size, and from its character it is hoped will have some favourable effect in depth. The other places are without alteration. At WHEAL FORT, there is an improvement reported in the back of the 65 west, which point is approaching the cross-course, and evidently about to open a good bunch of ore; looking at the character of the lode, and the quality of the ore, there is every reason to anticipate a great discovery. There are other places bidding fair to improve.

At SILVER VEIN MINE, the prospect of seeing the result of an important and interesting theory realised is gradually, though slowly, approaching. However confident Mr. Squire may be in the efficiency of his principle, it is manifest to the world, from the numerous correspondents of the *Mining Journal*, that he does not possess the confidence of practical and experienced metallurgists as to the extent which he anticipates producing from the mine now under his supervision. Should he succeed, as he feels confident, during the year, in producing tons of ore yielding from 500l. to 1000l. per ton, and even more, he will achieve a most valuable object, and effect for Cornish mining probably more than any other man. Mr. Squire is acting a very wise and prudent part in ascertaining the exact amount of fluxes, proportion of fuel, and every other particular, to preclude a failure; and it would be equally wise and prudent for the public to patiently await the result.

At WHEAL MOTYLE, the lode in the 12, under the adit, is represented as further improved, and now estimated worth 70l. per fathom for tin and copper, and the lode in the winze has greatly improved. At WHEAL ANNE (St. Austell) the discovery noticed last week continues improving, and as they anticipate cutting the lode in the shallow adit in a few days, shares have advanced, and there is little doubt that they will be in fair request, as the mine is only in 100 shares. A water-wheel of 42 feet diameter is in course of erection, with all necessary machinery for returning the tin they have already in the floors. At PENNILE MOON the old lode, which was recently cut into at the 30, is reported to be improving in value, producing rich stones of tin, and is a well-defined lode, and is likely to become permanently productive. There are other important points to come off shortly which are being watched with considerable anxiety.

At GREAT NORTH TOLGERS the discovery recently made at the flat-roof shaft continues to improve in sinking; the matrix of the lode is of precisely the same character as all the highly-productive mines of the locality, whilst its geological position is undeniable. It is thought that a very short time will elapse before the two shafts will be simultaneously sinking, and excellent ore ground being developed. WHEAL GREENVILLE is represented generally to have improved, and that the prospects are of a more encouraging character. The highly-promising appearance of the lode is sufficient to infuse the most sanguine hopes; whilst a very encouraging lode has recently been cut in the east part of the mine. At NORTH PROVIDENCE (St. Ives) the chief operations at present are confined to the sinking of the engine-shaft, which is down about 8 fathoms from surface, and when completed below the old workings there is every reason to believe profitable results will follow, as good ore ground has been left until the sinking of the shaft is completed to the desired point. Preparations are making for the commencement of the engine-house and other necessary buildings.

At EAST WHEAL GREENVILLE, the engine-shaft is rapidly approaching a 30 ft. level. The lode is large, and continues large and productive; and in the opinion of all the numerous practical agents who have inspected it is considered one of the most promising lodes in the west of Cornwall. At present the lode is producing 30l. worth of copper ore and about 6l. worth of tin per fathom for the length of the shaft, which being 2 fms. long reduces the value to 15l. per fathom for copper. The lode in the 25 west maintains its size and character, and estimated at 5l. per fathom, which is being driven at a cost of 3l. per fathom. Considerable interest is being felt, as the operation of sinking is carried on with the greatest possible expedition and force.

At EAST ROSEWAKE, the lode in the 43 east is improved, and looking well for further improvement; and the ground in the 43 east shows strong evidence of approaching the lode. The other points are without any alteration.

SOUTH WHEAL LOVELL is progressing more satisfactorily, and the returns of tin likely to be augmented monthly. They are now in course of draining the sink, where a good lode of tin is gone down; and with other points will return upwards of 100l. worth of tin monthly.

JAMES LANE.

From Mr. EDWARD COOK:—The market has been very animated during the week. The excitement caused by the late improvement in EAST GREENVILLE is still kept up, to the prejudice of other legitimate concerns that deserve more attention than is now being bestowed on them. Without wishing for any onerous detract from the importance of the recent improvement in East Wheal Grenville, we feel confident that the mine we have written so much and so strongly about for some time past will contrast most favourably with this or any other mine in Cornwall in the same stage of development—we allude to WHEAL MOTYLE. The question is frequently asked—What will be the amount of calls required to bring it into a dividend state? Our own opinion is that it would be desirable to make a call of 2s. 6d. at the next meeting, in order to pay for all the machinery and any liability that may be then existing. From the nature of the mine, we are confidently informed, can be worked at a large profit, hence some are of opinion that the question of any call can be dispensed with. This, however, will be left to the judgment of the shareholders at the next meeting, in June. A letter from the mine has been received containing intelligence of an important improvement in the rise in back of the 12 ft. level; this is about 32 fms. from the surface. Further information is expected, and we may refer to it again. Shareholders should not be disappointed at not seeing shares in Wheal Motyle fluctuate as in some other mines. They are steadily and permanently rising, and it will not surprise us to see them some 20s. or higher, before another month has elapsed. Our readers may wonder, with curiosity, why NORTH MINERA (limited) shares receded from 2l. to 30s. With paid-up capital and a large balance in hand, and the mine working at a profit, it is difficult to account for this strange anomaly; 70 tons of lead has just been sold, and another parcel being prepared for the market. The prospects of the mine were never better than at the present time; they are of a high order, and the first—of what we consider will be a continuance—dividend will probably be declared in August or September next.

The Dividend Mines, with few exceptions, have been neglected lately, and have, consequently, receded to prices that should be an investment in some of them. No doubt the prices ruled too high for them for some time previous to the drop. Mining property ought really to pay at least 15 per cent. This alludes to established mines, for exceptions must be made to mines just entering a dividend state, as they are supposed to contain the resources for giving dividends for a long period, therefore this class of mines generally command a high price in anticipations of their future profits—EAST CARADON for instance. No one will say that this mine is worth 110,000l. to 120,000l. if the present rate of dividend is to be a criterion for the future. This, however, we presume is not the case, as the dividends will gradually increase, and we have no doubt about its becoming a very important property. BRICH TON and VEA shares are attracting some attention. The mine is making profits, and at the next meeting a dividend is expected to be made. This is the class of mines at moderate prices that should be sought after by the public, instead of their rushing heedlessly into a lot of worthless concerns that are brought out possessing no merit whatever, although puffed up by reports from agents of no note or good reputation. The result of all this is loss to the investor, and consequently, tends to bring even legitimate mining enterprise into disrepute, while a little enquiry, before the investment was made, into the merits of the concerns in question would have saved a good deal

North of England Institute of Mining Engineers.

NORTH OF ENGLAND INSTITUTE OF MINING ENGINEERS.—GENERAL MEETINGS of the Members of this Institute will be held in BIRMINGHAM, on the 9th, 10th, and 11th of July next, detailed notices of which will be published and issued as the time approaches.

Meanwhile, with the view of encouraging mining science and promoting the objects of the Institute, the attention of the mining interests, colliery managers, inventors, patentees, and the general public is invited, in order that all persons who may have models, plans, and patented improvements in machinery or apparatus used in mining to exhibit may lose no time in communicating with the managing committee, so that space may be reserved for them.

All communications to be addressed to Mr. THOMAS DOUBLEDAY, the secretary of the Mining Institute, Newcastle-upon-Tyne.

Members having gentlemen to propose or papers to be read are requested to signify their intentions before the 15th of May, in order that the committee of management may arrange the proceedings of the three days in Birmingham, the details of which will be hereafter published.

Newcastle-upon-Tyne, April 8, 1861.

BELL BROTHERS beg to intimate that, having become SOLE LICENSEES in the United Kingdom of P. DE VILLE'S METHOD OF PRODUCING PURE ALUMINIUM, they are now in a POSITION to SUPPLY, from their works here, both this metal and its compound with copper, known under the name of ALUMINIUM BRONZE.—Newcastle-on-Tyne, September, 1860.

TO BE SOLD, BY PRIVATE TREATY, THE EXTENSIVE, VALUABLE, and well established ENGINEERING, IRON FOUNDRY, and MILLWRIGHT WORKS, known as the UNION FOUNDRY, in BOLTON-LE-MOORS, in the county of LANCASTER.

The LAND occupied by these works contains nearly four statute acres, situated in the centre of the town of Bolton, is bounded on the east, south, and part of the north sides by wide and excellent streets, and the London and North-Western Railway extends along and adjoins to the whole of the west side thereof, and communicates with lines of railway of similar gauge laid down through the works.

The BUILDINGS are in good condition, and the works are laid out and adapted throughout to the present requirements of trade. Several of the workshops have been recently entirely rebuilt, and the establishment and working plant have been greatly improved and remodelled during the last few years.

The BUILDINGS comprise large ERECTING, BORING, PLANING, TURNING, FITTING, and OTHER SHOPS; loam, green sand, and brass FOUNDRIES, BOILER SHOPS, FORGE, SMITHIES, PATTERN ROOMS, &c.

The counting-house and drawing offices are large, commodious, well built, of recent erection, and replete with all necessary fixtures and office furniture and apparatus.

The manager's house (adjoining part of the north side of the works) contains a spacious hall, two parlours, two kitchens, five bedrooms, and other conveniences. There are two houses for workmen, and another house for the watch-keeper.

The outsheds comprise a coach-house, saddle house, stabling for twelve horses, and all other requisite outbuildings and appendages.

The WORKING PLANT consists of FOUR STEAM ENGINES and BOILERS for driving same, with turning lathes, planing, boring, slotting, screwing, drilling, grooving, and wheel-cutting machines; cranes, cupolas, moulding boxes; boiler-making machines and tools; flans, smiths' hearths; weighing machines, forges, gas, steam, and water-pipes, railways, and all other requisite machinery, tools, implements, and utensils required in a large engineering and millwright establishment.

The PATTERNS include above 1100 of spur, mitre, and bevel wheels; a large assortment of stationary, portable, and marine engines; water-wheels, hydraulic presses, dredging machines; gas apparatus, cranes, bridges; sugar mills, sugar pans, saw mills; pulleys and general millwork; bleachers, printers, colliery, and other work connected with the requirements of the manufacturing businesses of the district.

The works, which are adapted for the employment of from 600 to 800 men, have been in existence above 60 years, during more than 40 of that period have been carried on in succession by the two eminent firms of Rothwell, Hick, and Rothwell, and Rothwell and Co. They were amongst the first employed in the construction of locomotive engines, in which they have continued to be very extensively occupied. They rank amongst the largest and most celebrated engineering establishments in the Kingdom, and have been recently engaged in important contracts with Her Majesty's Government. They enjoy, also, an extensive, varied, and most valuable general connection, and have considerable contracts on hand.

The property is offered for sale in consequence of the death of the late proprietor, and an opportunity rarely to be met with this occurs of embarking at once in a large and valuable business in full and complete efficiency, and the purchaser may have the option of taking all or such of the contracts on hand as he may select.

To view and treat for the property, application may be made to JOHN HOWARD, Esq., on the premises; to R. S. CHOCK, Esq., Rodney-street, Liverpool; or to Messrs. RUSSELL and ARMISTEAD, solicitors, Bolton; from any of whom all further particulars may be obtained.

LIST OF PRIZE SUBJECTS FOR SESSION 1861-62.

THE ROYAL SCOTTISH SOCIETY OF ARTS proposes to AWARD PRIZES of different values, of Thirty Sovereigns and under, in Gold or Silver Medals, Silver Plate, or Money, for APPROVED COMMUNICATIONS, primarily submitted to the Society, relative to INVENTIONS, DISCOVERIES, and IMPROVEMENTS in the MECHANICAL and CHEMICAL ARTS in general, and in their relation to the FINE ARTS, and also to means by which the NATURAL PRODUCTIONS of the country may be made more available. The society suggests the following as a few of the many subjects that may be attended to, viz.

I.—INVENTIONS, DISCOVERIES, or IMPROVEMENTS in the USEFUL ARTS.

1. MECHANICAL ARTS.—Inventions or Improvements in Applying the Motive Power of Men and Animals—in Wind and Water Prime Movers—in Steam and other heat Engines, in Pumping, Blowing, Rolling, Sawing, Agricultural, and other Engines and Machines, in Cotton and other Textile Manufacturing Mills—in Shipbuilding, Wood, Iron, and Steel—in Lighthouses—in Marine Propellers—in Railways, Plant, and Signals—in Electro-Magnetic Motive Power—in Electric and other Telegraphic Apparatus, Submarine and Aerial—in Photographic Apparatus—in Fire-Proof Buildings—in Water Supply—in Drying—Sewage—in Economical Appliances for Increasing the Sanitary Condition of Towns—in Smoke Consumption and Extinguishing Fires—in Gas Works in Canals and Inland Navigation—in Tools, Implements, and Apparatus for the various Trades, in Bricks, Encaustic Tiles, Cements and Mortars—in Printing Machines, Cases, and Rollers—in Stereotyping—in Cranes—in the Machinery for Collieries—in Preserving Timber and Metals in Marine Works—in Optical Apparatus for Astronomy, Surveying, and Levelling—in Manufacture of Paper—Experiments on the Effect of Low Temperatures on Metals.

2. CHEMICAL ARTS.—Inventions or Improvements in New and Useful Applications of Gutta Serena and Vegetable Resins—In the Extraction of the Essential Oils and the Extraction of Chemical Principles or Useful Substances, as Paraffine, &c., from Coal—In the use of Clay from Granite or Feldspar—and Metals generally from their Ores and Oxides—in Dyes—in Paints—in Paper—in Glass, especially for lenses—in Methods of rendering the Electric Light Available in Practice.

3. RELATIVE TO THE FINE ARTS.—Inventions or Improvements in Photographic Processes, in "Carbon" Printing, and in Methods of Printing Photographs from their Impressions on Steel or Copper Plates, or Lithographic Stones—in Electrotype Processes—in Die Sinking—in Methods of Illustrating Books, to be Printed with the Letterpress—in Paper-Hangings—in Articles of Porcelain, Common Clay, or Metal—in Glass Staining—in Engraving on Stone—in Chromo-Lithography—"Nature" Printing.

4. NATURAL PRODUCTIONS.—Discovery of Plumbago Mines—Whetstones—Woods suitable for Engraving.

II.—EXPERIMENTS applicable to the USEFUL ARTS.

III.—COMMUNICATIONS of PROCESSES in the USEFUL ARTS practised in this or other countries, but not generally known.

IV.—PRACTICAL DETAILS of PUBLIC or PRIVATE UNDERTAKINGS of NATIONAL IMPORTANCE already executed, but not previously published; or valuable suggestions for originating such undertakings.

KEITH PRIZE (Value Thirty Sovereigns).—For some important "Invention, Improvement, or Discovery" in the Useful Arts, which shall be primarily submitted to the Society" during the Session.

MAKDUGAL BRISBANE BIENNIAL PRIZE (value £10).—To the Authors or Inventors of Communications of Merit, which shall be approved of by the Society, or its committee, and judged by them deserving of such distinction.

REID AND AULD PRIZES.—For the First, Second, and Third Best Models of "Anything New in the Art of Clock or Watch Making, by Journeymen or Master Watch and Clock Makers." If these should be considered worthy of prizes, the year's interest of the Reid and Auld Bequest, being about Seven Guineas, divided among them in such proportions as the prize committee may think fit, according to merit. To such as deserve it, the Society may add to the amount of the prize out of its general funds.

GENERAL OBSERVATIONS.

Communications lodged in competition for prizes shall not have been patented, nor previously published, nor read before any other society. Patented articles may, however, be exhibited and described. The descriptions of the various inventions, &c., must be full and distinct; to be legibly written on foolscap paper, leaving margins at least 1½ inch broad on both sides of each page, so as to allow of their being bound up in volumes; and, when necessary, be accompanied by specimens, drawings, or models. All drawings to be on imperial drawing paper, unless a larger sheet be requisite. The drawings to be in bold lines, not less than a quarter of an inch thick, or strongly coloured, so as to be easily seen at about the distance of 30 feet when hung up in the hall, and the letters or figures of reference to be at least 1½ in. long. When necessary, smaller and more minutely detailed drawings should accompany the larger ones, for the use of the committee, having the same letters of reference. Short abstracts must accompany the papers. The Society shall be at liberty to publish in their Transactions copies or abstracts of all papers submitted to them. All models, drawings, &c., for which prizes are given shall be held to be the property of the society; but the value of the model will be separately allowed for.

Communications, models, &c., are to be addressed to the Secretary, Chambers, 6, Hill-street, Edinburgh, postage or carriage paid; and should be lodged on or before 1st October, 1861, in order to insure their being read and reported on during the Session (the ordinary meetings of which commence in November, 1861, and end in April, 1862); but those which cannot be lodged earlier will be received up to 1st April, 1862. If lodged after that date, they may not be read or reported on till the following Session.

By order of the Society, JOHN BEATSON BELL, Secy.

Edinburgh, April 9, 1861.

GOVERNMENT OFFICIALS—REDUCTION IN SCALE OF PREMIUMS.

THE EUROPEAN ASSURANCE SOCIETY ISSUES POLICIES of GUARANTEE, at reduced rates, for officials in or under the Treasury Customs, Inland Revenue, Board of Trade, Poor-Law Board, Admiralty, and other public departments, and for bank and railway clerks and persons in commercial employments.

Further reductions on the combination of life assurance with guarantee. Annuities granted on favourable terms.

Forms and every information may be obtained at the chief office, No. 2, Watlington-place, Pall-mall, London.

LEICESTER AND CO. (late Leicester, Brache, and Teague), CONSULTING MINING ENGINEERS AND SURVEYORS, AND GENERAL MINING AGENTS, MELBOURNE, VICTORIA, PROCURE MINING LEASES on ELIGIBLE TERMS from the GOVERNMENT of VICTORIA and NEW SOUTH WALES, on receipt of a guarantee for £200, to cover costs of lease, survey and report, &c. Messrs. LEICESTER and CO. OFFER to TAKE the MANAGEMENT of MINING COMPANIES, and PROVIDE OFFICE ACCOMMODATION, for a percentage on the profits of the company.

For further particulars, apply to Mr. RICHARD MIDDLETON, Mining Journal office, 26, Fleet-street, London, E.C.

All remittances must be made through our bankers, the Union Bank of Australia.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

PURSUANT to an Order, or Decree, made in the Cause of **SAMPSON and ANOTHER v. UNSWORTH**, the CREDITORS in respect of **SOUTH LADY BERTHA MINE**, in the parish of Buckland Monachorum, within the said Stannaries, are, on or before the 11th day of May next, to COME IN and PROVE THEIR DEBTS before the Registrar of the said Court, at his office in Truro, or in default thereof they will be excluded the benefit of the said Decree.

Dated Registrar's Office, Truro, April 26, 1861.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN RE NORTH DOWNS and WHEAL ROSE UNITED MINES.
TO BE SOLD, pursuant to an Order made in the Cause of **GREENWOOD v. HAWKE and OTHERS**, dated the 23d day of March last, BY PUBLIC AUCTION, at the Registrar's Office, Truro, on Wednesday, the 8th day of May next, at Twelve o'clock at noon precisely—

100 (6000ths) SHARES of the defendant Richard Hawke.

20 (6000ths) SHARES of the defendant Alfred Jeffree.

25 (6000ths) SHARES of the defendant W. E. Commins.

20 (6000ths) SHARES of the defendant John Hambley.

10 (6000ths) SHARES of the defendant Ann McDonald.

10 (6000ths) SHARES of the defendant John McLean.

80 (6000ths) SHARES of the defendant William Frazer; and

60 (6000ths) SHARES of the defendant James Clement.

Of and in the said MINES.

Mr. STOKES, Plaintiff's Solicitor, Truro.

Dated Registrar's Office, Truro, April 23, 1861.

In Chancery.

YORKSHIRE.—FREEHOLDS, COPHOLDS, and BEDS OF COAL, LAKE LOCK, NEAR WAKEFIELD.

TO BE SOLD, pursuant to an Order of the High Court of Chancery made in certain Causes of **HOYLAND v. HEMINGWAY**, and **HOYLAND v. HEMINGWAY**, and by arrangement with the owners, with the approbation of the Vice-Chancellor Sir Richard Torin Kildersley, the Judge to whose Court the said causes are attached, by Mr. Edward Lancaster, the person appointed by the said Judge, at the Strand Arms Hotel, in Wakefield, in the county of York, on Monday, the 13th day of May, 1861, at Two o'clock in the afternoon, in six lots, VALUABLE FREEHOLD and CAPHOLD ESTATES, situated at or near LAKE LOCK and ALTOFTS, near WAKEFIELD, in the county of York, containing 40 acres or thereabouts, and now or late in the several occupations of Millington Crev, Robert Clegg, Henry Wilde, William Copley, John Craven, Mrs. Hawshaw, Thomas Breahey, Smith and Watson, Messrs. Charlesworth, William Craven, and Michael Calvert.

Also, the BEDS OF COAL and OTHER MINERALS under the old enclosed parts of the same, and other estates lately sold in the above Causes, all late the property in equal moieties of Shepley Watson, Esq., deceased, and Edward Hemingway, Esq., deceased.

Printed particulars and conditions of sale, and plans of the estate, may be had (gratis) in London of Messrs. PERKINS and SON, solicitors, 13, Great James-street, Bedford-row; and Messrs. Fawcett, Henrietta-street, Covent-garden; and in the county of York, of Mr. HOYLAND, solicitor, Brierley, near Barnsley; Messrs. NELSON, BULMER, and NELSON, solicitors, Leeds; Messrs. TRALE and APPERSON, solicitors, Leeds; Mr. JAMES BULMER, surveyor, York; Mr. LANCASTER, Barrister at Law, the auctioneer; and at the place of sale.

Dated the 27th day of March, 1861.

CHAS. PUGH, Chief Clerk.

MR. JOHNSON WILL SELL, BY AUCTION, at the Wynnstay Arms Hotel, Wrexham, on Tuesday, the 7th day of May, 1861, at Four o'clock in the afternoon, subject to conditions to be then produced, all that MESSAGE or TENEMENT with the OUTBUILDINGS, GARDEN, and SEVERAL PIECES or PARCELS of EXCELLENT ARABLE and PASTURE LAND thereunto belonging, containing in the whole 16 A. 2 R. 20 P. or thereabouts, be the same more or less, situated in the township of Cymman, in the parish of Hope, in the county of Flint, in the holding of Mr. Robert Jones, together with the very VALUABLE and recently tested SEAMS of COAL and IRONSTONE thereunder.

The SEAMS of COAL consist of Two Yards, the Crank, the Brassey, the Black Bed, and the Main, all of which are eminently suitable for house purposes and the manufacture of iron and gas.

The property is situated in near proximity to the collieries in the Frood district, within a mile of the Wrexham and Mold turnpike-road, and distant from Wrexham five miles, Mold seven miles, and Chester twelve miles, and adjoins the lands of W. Shipley Conway, Esq., Mrs. Warren, Ralph Leek, Esq., Mr. Smallwood, and Mr. Parry.

The timber to be taken at a valuation, which will be produced at sale.

The tenant will show the premises, and further particulars can be obtained from the auctioneer; Mr. JOHN PETERS, mine agent, Brynbo; and at the offices of Mr. WYATT, solicitor, Wrexham, where a plan of the property may be seen.

PENHAUGHER MINE, in the PARISH of MENHENOT, in the COUNTY OF CORNWALL.

MR. BAKER is instructed to SELL, BY PUBLIC AUCTION, on the mine, on Wednesday, the 15th inst., at Four o'clock in the afternoon, the MINE SETT and all the MATERIALS thereon, in One Lot, comprising—

A STEAM ENGINE, 10 horse power, with 5 tons BOILER, and pitwork fixed in working order, 29 fms. under adit; horse wheel, capstan and shears, smiths' bellows, smiths' tools, &c. Also, several tons of lead ore.

For particulars, apply to Mr. WM. NETTLE, purser; Capt. KNAPP, manager; or to the auctioneer, Liskeard.—Wadeham, May 1, 1861.

CORNISH PUMPING ENGINES.

MESSRS. FULLER and HORSEY are instructed to SELL, BY PRIVATE CONTRACT, THREE GREAT CORNISH PUMPING ENGINES, made by Harvey and Co., the celebrated engineers, of Hayle, Cornwall, in 1854, and subsequently for the Old Wheal Vor Mine, situated about seven miles from the shipping port of Hayle. The diameters of the cylinders are 100 in., 85 in., and 80 in., with 11 ft. stroke, equal beam. The 100 in. cylinder makes on an average 5½ strokes per minute; the quantity of water raised by each stroke is 16,268 gallons, or nearly 70,000,000 gallons in the twelve hours. The 85 in. cylinder makes 6½ strokes per minute, and raises about 60,000,000 gallons. And the 80 in. cylinder engine, which has never been worked, may be calculated in proportion. Attached to this engine there are TWO STEAM BOILERS, weighing about 12 tons each, of unusual strength.—For further particulars, apply to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

VALUABLE PATENT FOR THE PRODUCTION OF PARAFFINE OIL AND PARAFFINE FROM BOG HEAD OR OTHER COAL.

MESSRS. FULLER and HORSEY are instructed to DISPOSE OF, BY PRIVATE TREATY, A VALUABLE PATENT FOR IMPROVEMENTS in DISTILLING PARAFFINE FROM COAL. by the application of superheated steam, by means of which the cost of production is much diminished, and the quantity produced largely increased. The process has been thoroughly practically tested; and by adopting the same in an establishment of works, at a moderate outlay of capital, the most profitable results cannot fail to be realised.—For further particulars, apply to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

WOLFRAM FOR SALE.—About TWENTY TONS of this MINERAL are NOW READY for SAMPLING at EAST POOL MINE, near REDRUTH, CORNWALL. For inspection or taking samples, application should be made to the agents on the mine. Tenders for the same, addressed to the committee of management at the mine, will be received up to the end of May proximo, when the party whose offer is approved will be duly advised thereof. The committee will not engage to accept the highest offer.—East Pool Mines, April 15, 1861.

GLAMORGANSHIRE.

COLLIERY.—TO BE SOLD, OR LET ON LEASE, the LLETTYMAUR COLLIERY, most advantageously situated, being only three miles from Neath, and immediately above the Vale of Neath Railway and Canal, both leading to Neath, Briton Ferry, and Swansea.

The coal is 3 ft. thick, free burning, and of very superior quality, suitable for household and all other purposes. It may be worked very cheaply, and with a small capital, as a short level will drain the whole field, and a short incline connect the mouth of the level with the above railway and canal; neither steam nor horses will, therefore, be required. Extent of coal field, about 40 acres.

Applications to be made to Mr. LEWIS GREFFITHS, Ynis-y-Gerwn, Neath.

NEW COLLIERY, NALSEA, NEAR BRISTOL.

FOR SALE, BY PRIVATE CONTRACT, THE WHOLE OF THE PLANT and MATERIALS at the above colliery, comprising—

ONE HIGH PRESSURE DIRECT ACTING PUMPING ENGINE, cylinder 45 in. diameter, and 10 ft. stroke.

ONE HIGH PRESSURE WINDING ENGINE and gear, cylinder 12 in. diameter.

ONE HIGH PRESSURE WINDING ENGINE, cylinder 16 in. diameter.

THREE CYLINDRICAL BOILERS, 41 ft. by 6 ft.

ONE CYLINDRICAL BOILER, 18 ft. by 4 ft.

ONE CYLINDRICAL BOILER, 20 ft. by 3 ft. 6 in.

Hammered iron pumping cranks, T bolts, 19 in., 14½ in., 5½ in., 5 in., and 4½ in. forcing, lifting, and hand pumps; hammered iron straps, double straps and tall joints, buckets, clacks, wrought-iron clastern, lifting screws, chains, large capstan, double power crab winch, 80 fms. 10½ in. capstan rope, 8 in. capstan and other ropes, blocks, boring tools, wrought-iron air pipes, tram plates, smiths' bellows and tools, wagons, carts, &c.

To view, apply at the colliery; and for all further particulars to BODDAN CASTLE, Esq., No. 29, Corn-street, Bristol.

ST. STEPHENS, NEAR ST. AUSTELL, CORNWALL.

TO BE SOLD, BY PRIVATE CONTRACT, WHEAL GRENVILLE IRON MINE, situated in the parish of St. Stephens, near St. Austell, held under a lease from Lady Grenville to Mr. Walter James Palmer, for a term of 21 years, commencing April 18, 1860. Many thousands of tons of ore were raised and sold by the late Mr. Palmer, of Chevelah, near Truro, who died in January, 1859, since which the mine has been doing but very little. The quality of the ore is superior to that of most of the iron ores in Cornwall, yielding a produce of nearly 60 per cent. of metal. After the charge for transit to the wharves (5s. 6d. per ton) and all other expenses are deducted from the price it will bring, a clear profit of several shillings per ton will be realised, and this profit will be considerably enhanced when the branch railway to connect the St. Stephens mine and clay-works with the Cornwall Railway is opened, a bill for the construction of which is now before Parliament, promoted by the honourable proprietors. This will effect a saving of 2s. 6d. per ton, and, of course, add so much to the profit.

The lode is from 2 to 3 fms. in thickness, and may be wrought about 60 fms. below the surface by means of an adit, which may be driven on the lode from two valleys at the extremity of the sett, and meet in the centre, thus having high ground about half a mile in length to be taken away without any water charge.

The River Fal, which passes over the boundary of the property, will supply abundant motive power for drainage, if required, and for other mechanical purposes to which it is applicable.

The lessee wishes to dispose of the property for reasons which must be perfectly satisfactory to any one desirous of knowing them.

For viewing the mine, application may be made to Mr. HENRY TRUSCOTT, Cornish Arms Inn, St. Stephens; and to treat for the same apply to Mr. C. R. WERN, Chacewater, near Truro; or to Mr. R. SYMONS, surveyor, 11, Parade, Truro.

Dated Chacewater, Cornwall, April 10, 1861.

WHEATLEY KIRK AND CO., GENERAL ENGINEERS, MACHINISTS, TOOL MAKERS, &c., of MANCHESTER, continue to SUPPLY any class of MACHINERY for home and exportation, with the utmost facility. Their catalogues are sent by post (free) on application.

WHEATLEY KIRK AND CO. CALL ESPECIAL ATTENTION to their STOCKS, TAPS, and DIES. **WHITWORTH STANDARDS** of various sizes in cases.—Manchester, April 26, 1861.

IMPORTANT TO THE IRON TRADE.—By the aid of J. BROAD'S PATENT APPARATUS for ECONOMISING COAL and OTHER FUEL in BLAST FURNACES, EVERY AVAILABLE PARTICLE of SMALL FUEL MAY BE USED as to be nearly equal in efficiency to large coal and coke.—17, Belgrave-terrace, Villa-road, Handsworth, near Birmingham.

TO IRONFOUNDERS.—J. IRELAND, FOUNDRY ENGINEER, begs to CALL the ATTENTION of IRONFOUNDERS to his PATENT UPPER TUYERE CUPOLA FURNACE, which EFFECTS a SAVING of from THIRTY to FIFTY PER CENT. in coals, and melts the metal in much less time, without any additional labour or expense. Full particulars and testimonials can be had upon application at his office, 21, Moreton-street, Strangeways, Manchester.

FOR SALE, the BRYNGLAS SILVER-LEAD MINE, situated near Ponterwydd, and about three miles from the Devil's Bridge, and twelve miles from the port of Aberystwyth, Cardiganshire.

The above mine has been worked by the present proprietors for nearly three years, and the machinery for pumping, crushing, and dressing the ore is of the very best description, and in perfect working order.

Upwards of £5000 has been expended in the erection of the machinery and the development of the mine. The shaft is sunk 36 fms. In the lode in the bottom the lode is worth from 15 to 20 cwt. per fm. The lode in the 20 fm. level is also worth from 15 to 20 cwt. per fm. There is an abundant supply of water, and the royalty is moderate. For further particulars, apply to the Secretary, at the offices, Claremont Hill, Shrewsbury.

COPPER MINES IN NORWAY.—FOR SALE, the COPPER WORK and MINES of AAMDAL and of HOISEID, UPPER TELEMARKEN, NORWAY. The proprietor of the above establishments, not being possessed of the means necessary for properly developing the same, wishes to dispose of them to an individual or to parties willing to promote the formation of a company.

There are nine mines belonging to the Aamdal work. The veins are quartz, purple copper and copper pyrites, and copper glauconite, containing 120 ozs. of silver to the ton. There is abundant water-power, a new stamp work, with six wet and three dry stamps, an establishment for silver extraction, with steam-boilers, several furnaces, a saw-mill, a corn-mill, storehouse, overseers and workmen's houses, &c.

The Hoiseid property, 14 miles from Aamdal, consists of four mines, which contain argentiferous galena and copper. There is abundant water-power, water-wheel, fanner, several furnaces, and a dwelling-house.

The great want is a new road of about 15 miles, which would place the works within water communication of the shipping port of Skeen.

For further information, apply to the proprietor, KAMMERHERR SCHOTEN, Christians; or to Mr. T. MACFARLANE, the late manager, Lorguen, Canada; or to LISTER and BIGGS, 3, Laurence Pountney-hill, London.

LARGE IRONWORKS and COLLIERY ROYALTY FOR SALE.—The EXTENSIVE IRONWORKS of VULCAN, on the right bank of the Rhine, in PRUSSIA, close to the mouth of the Duisburg Canal and the mouth of the navigable River Ruhr, adjoining the great coal district of the Ruhr and Westphalia, and having connection by a branch railway with the Cologne-Minden Railway, and thereby with all parts of the Continent, are, in consequence of the dissolution of the company, to be PUBLICLY SOLD in the month of June next.

These works consist of FOUR LARGE BLAST FURNACES, with BLAST and COKE OVEN, COKE OVENS, machinery for loading and unloading materials from the Rhine and Duisburg Canal, FOUNDRY, MECHANICAL WORKSHOPS, with TOOLS and MACHINERY belonging thereto, and every convenience for the immediate resumption of work on a large scale.

In addition is a COLLIERY ROYALTY around the works, consisting of about 1500 English acres, with a pit partially sunk by an English contractor of eminence, and large PUMPING and DRAWING ENGINES, BOILERS, and necessary BUILDINGS, in full order and ready for immediate use, with many acres of land, sufficient for a pit-village and all other purposes.

The position of these extensive works, and their connection by the Rhine and railways with the ironstone mines belonging to the works on the Rhine (and which are to be sold with the works), together with the high protective duties which exist in Germany for iron, afford a peculiarly favourable opportunity for a practical British ironmaster to realise a good profit from their purchase and working.

Further details and information will be readily afforded on written or personal application to the chairman of the commission appointed for the liquidation of the affairs of the Vulcan Company, F. HANMACHER, Doctor of Laws, Essen, Rhine Province, Prussia.

DERBYSHIRE.

THE ALDERWASLEY FORGE AND WORKS, NEAR THE AMBERGATE STATION ON THE MIDLAND RAILWAY.—TO BE LET on a lease for 7, 14, or 21 years, and may be entered upon immediately, the above-mentioned FORGE and WORKS, with the STORE ROOMS, OFFICES and BUILDINGS, and COLLING and SLITTING MILLS, on the banks of the River Derwent, in the liberty of Alderwasley, and the WATER-WHEELS of 70 horse power and MACHINERY belonging thereto, late in the occupation of Messrs. Mold, who for nearly 50 years carried on a lucrative and extensive business as ironmasters at the said works, together with a newly-erected MESSAGE, or DWELLING HOUSE, very pleasantly situated near the said works, with the green-house, stables, coach-house, and capital garden belonging thereto, and upwards of 30 acres of excellent land, and 15 workmen's houses and counting-house, near or contiguous to the works.

The works are situated within half a mile of the Ambergate station on the Midland Railway, and the Cromford and Belper turnpike-road, the branch railway from Ambergate to Bowley (on which there is a siding and wharf for the use of the works), and the Cromford Canal (attached to which is a wharf also for the use of the works), are all parallel therewith and immediately contiguous thereto, and afford excellent railway and canal transit to and from London, Leeds, Nottingham, Derby, and all parts of the kingdom; and the extension of the railway from Rowsley to Buxton, now in progress, will give a direct communication with Manchester, Liverpool, &c.

The works are also available for saw-mills on an extensive scale, or for any other purpose requiring power and facility of transit.

For further

BEDFORD IRONWORKS, TAVISTOCK.

NICHOLLS, WILLIAMS, AND CO. have generally a GOOD STOCK OF SECOND-HAND MINING MATERIALS FOR SALE, including ironwork for a water-wheel, 40 ft. diameter, 2½ ft. broad. They also MANUFACTURE STEAM ENGINES of every description on the newest principle. Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts of the world. Steam boilers and chains warranted of the best description.

PATENT BITUMINIZED GAS, WATER, AND DRAINAGE PIPES.—These PIPES POSSESS all the PROPERTIES NECESSARY for the CONVEYANCE OF GAS AND WATER, and also for DRAINAGE PURPOSES—viz., GREAT STRENGTH, GREAT DURABILITY, and PERFECT INOXIDABILITY, and being non-conductors are not affected by frost, like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are only one-fourth the weight, and considerably cheaper than iron pipes. They are made in 7 ft. lengths, and the joints are simple and inexpensive. These pipes have been in use in France, Spain, and Italy nearly three years, where the demand for them is very great. The opinions of the press on a public test at the House of Parliament, before a large number of engineers and other scientific gentlemen, may be had, with further particulars, at the office of the company, on application to Mr. ALEX. YOUNG, 67, Mark-lane, London, where sample pipes may be obtained for trial.

PATENT LEVER BREAK, FOR RAILWAY WAGONS.—Doing away with the objectionable break rack. Can be APPLIED TO EXISTING STOCK at a TRIFLING EXPENSE. Royalty moderate. Models can be seen at 34, Great George-street, Westminster; and the breaks in action at the works of the Railway Carriage Company; at the Peterboro' Station, on the Eastern Counties Railway; the Rugby Station, London and North-Western Railway; the Cardiff Docks Station, Taff Vale Railway; and at the Works, Oldbury, near Birmingham, where all communications are requested to be sent.

INCORUSTATION OF STEAM BOILERS.—EASTON'S PATENT BOILER FLUID EFFECTUALLY REMOVES and PREVENTS INCORUSTATION IN STEAM BOILERS, WITHOUT INJURY to the METAL, with GREAT SAVING in FUEL, and with LESS LIABILITY to ACCIDENT from EXPLOSION. It is used by Her Majesty's Steam Steamships, Woolwich Arsenal, Honourable Corporation of Trinity House, Tower of London, by the principal Steam Packet Companies of London, Liverpool, Southampton, Hull, &c., and by engineers and manufacturers throughout the country. Testimonials from eminent engineers, boiler makers, and manufacturers, with full particulars, will be forwarded on application to P. S. EASTON and G. SPRINGFIELD, sole manufacturers and patentees, Nos. 37, 38, and 39, Wapping-wall, London, E.

Agents:—Liverpool, Mr. J. McInnes; Hull, Messrs. A. H. Fleming and Co.; Southampton, Mr. J. Clark; Birmingham, Mr. Adam Dixon; Belfast, Mr. W. T. Muller, C.E.; Nottingham, Mr. G. D. Hughes; Glasgow, Mr. W. Motrie; Rio de Janeiro, Messrs. Miers Brothers and Maylor; Odessa and South Russia, Mr. W. Baxter; Hamburg, M. August Möller.

Mr. Easton has rendered steam navigation a decided service. If his fluid only effects a part of what is said in his testimonials, then it is worth a trial by every steamship owner in the world.—*Mitchell's Steam Shipping Journal*, Dec. 28, 1860.

Messrs. Easton and Springfield have patented and are now manufacturing a fluid which, although it has been subjected to the severest tests, appears to give universal satisfaction.—*Mining Journal*, Dec. 22, 1860.

The most effectual, economical, and simple preventive of incrustation known.—*Commercial List*.

AYTOUN'S PATENT SAFETY CAGE FOR MINES.—An illustrated description of this cage appeared in the *Mining Journal* of the 27th April. The patentee would impress on the working miners that it depends upon themselves alone whether they are to have the security of safety cages or not. Employers are naturally unwilling to incur this responsibility, but will gladly accede to the expressed wishes of their workmen in a matter so materially affecting their safety. Let the latter, therefore, with the concurrence of their employers, call upon the different patentees to exhibit their safety cages before them, make choice of the one they have confidence in, and thus do away with a fruitful source of danger to the miner.

N.B.—If requested to do so, the patentee will send a safety cage, with its guide-rods and frame complete, to any mining district, at his own expense, for the purpose of its being tried and tested. He has no doubt that the other patentees will do the same.

Apply to the patentee, ROBERT AYTOUN, 3, Fettes-row, Edinburgh.

BASTIER'S PATENT CHAIN PUMP.—APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, &c.

J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, farmers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of the hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine as daily demonstrated by use:—

- 1.—It utilizes from 90 to 92 per cent. of the motive power.
- 2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.
- 3.—It occupies a very small space.
- 4.—It raises water from any depth with the same facility and economy.
- 5.—It raises with the water, and without the slightest injury to the apparatus sand, mud, stone, and every object of a smaller diameter than its tube.
- 6.—It is easily removed, and requires no cleaning or attention.

To be seen daily at W. P. Warner's, wine and spirit merchant, Welsh Harp, Edgware road, near Cricklewood. References of the highest character will be given.

J. U. BASTIER, sole manufacturer, will CONTRACT TO ERECT his PATENT PUMP at HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors and others, for the USE of his INVENTION.

OFFICES, 19, MANCHESTER BUILDINGS, WESTMINSTER, LONDON.

London, Oct. 10, 1859. Hours, from Ten till Four. J. U. BASTIER, C.E.

SAMUEL GRIFFITHS' STAFFORDSHIRE IRON TRADE CIRCULAR. Published every Saturday afternoon. Circulation, 7000 per week. Price 41s. per annum, in advance, post free, being registered for transmission abroad at same price.

The Iron Circular gives the state of the Market with respect to Pig and Malleable Iron; the Official Prices of Bars, Hoops, Sheets, and most other kinds of Staffordshire Iron; a Report of the Iron Trade throughout England, Scotland, and Wales; the Scotch Pig Market up to the close of the market on the day of publication; the Closing Price of the Funds and the principal Railway Stocks up to two o'clock the same day; a Monthly Report of the Iron Trade in France; a Weekly Report of the Money Market, London Discount Market, state of the Foreign Exchanges; the Weekly Return of the Bank of England; the Monthly Return of the Bank of France; a correct Weekly Account of all the Gold Ships at Sea, London bound; likewise an accurate Weekly Return of all the Gold and Specie received during the week; a Report of the Copper Market, with prices of all kinds; a Report of the Tin Market, with present prices, and the same of Lead and Spelter, every week. The Iron Circular likewise contains an account of all Failures, Dissolutions of Partnerships, Changes in Firms, Stoppage of Works, Works Recommencing, New Works, or those in course of erection; in a word, the CIRCULAR gives every information connected with the Iron Trade which Mr. GRIFFITHS, whose well-known connection with it, considers would be useful and acceptable to the ironmaster, the Merchant, the Shipper, Banker, or any other Buyer of Iron. The same may be said with regard to Copper, Tin, Spelter, and Lead. A Tabular Statement will be published with the Circular, showing the number of Furnaces in and out of blast in all the Iron Districts, the quantity of Iron made, and likewise the quantities of Coal and Ironstone consumed in its production.

Parties wishing to subscribe will send a post-office order, addressed to S. GRIFFITHS, Metal Broker, Wolverhampton, which will include the cost post free to end of this year.

INVESTMENTS IN BRITISH MINES.—Mr. MURCHISON publishes a QUARTERLY REVIEW OF BRITISH MINING, giving at the same time the POSITION and PROSPECTS of the MINES at the end of each Quarter, the DIVIDENDS PAID, &c.; price One Shilling. RELIABLE INFORMATION and ADVICE will at any time be given by Mr. MURCHISON, either personally or by letter, at his Offices, No. 117, BISHOPSGATE-STREET WITHIN, LONDON, where copies of the above publication can be obtained.

OPINIONS OF THE PRESS ON MR. MURCHISON'S WORK ON BRITISH MINING, PUBLISHED IN 1856.

Mr. Murchison's new work on British Mines is attracting a great deal of attention, and is considered a very useful publication, and calculated to considerably improve the position of home mine investments.—*Mining Journal*.

The book will be found extremely valuable.—*Observer*.

A valuable guide to investors.—*Herapath*.

Mr. Murchison takes sound views upon the important subject of his book, and has placed, for a small sum, within the reach of all persons contemplating making investments in mining shares that information which should prevent rash speculation and unproductive outlay of capital in mines.—*Morning Herald*.

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This work enables the capitalist to invest on sound principles; in truth, it is an excellent guide.—*Plymouth Journal*.

All who have invested, or intend to invest, in mines, would do well to consult this very useful work.—*Spetch Express*.

Persons desirous to invest their capital in mining speculations, will find this work a very useful guide.—*Warwick Advertiser*.

We believe a more useful publication, or one more to be depended on, cannot be found.—*Plymouth Herald*.

Those interested in mining affairs, or who are desirous of becoming speculators should obtain and carefully peruse the work.—*Monmouth Beacon*.

With such a work in print, it would be gross neglect in an investor not to consult it before laying out his capital.—*Poole Herald*.

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A very valuable book.—*Cornwall Gazette*.

All who have invested, or intend to invest, in mines should peruse this able work. Mr. Murchison will be a safe and trustworthy guide, so far as British Mines are concerned.—*Bath Express*.

Is deserving the attention of every one who seeks profitable investment of his capital.—*Brighton Examiner*.


Of great value to capitalists.—*Sunderland Times*.

It is full of carefully compiled and reliable information relative to all the known mines in the United Kingdom.—*Sheffield Free Press*.

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM. BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS. IN STOCK—FOR SALE OR HIRE.

THE RAILWAY CARRIAGE COMPANY, OLDBURY, NEAR BIRMINGHAM. MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND IRONWORK. NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK FOR SALE OR HIRE. LONDON OFFICES.—No. 1, MOORGATE.

THE BIRMINGHAM WAGON COMPANY (LIMITED) HAS RAILWAY WAGONS FOR HIRE. Apply to the SECRETARY, 3, Newhall-street, Birmingham.

JAMES RUSSELL AND SONS, CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. WAREHOUSE.—81, UPPER GROUND STREET, BLACKFRIARS, LONDON, S. The Original Inventors and First Manufacturers of the Patent Wrought-Iron Tubes for Gas, Steam, Water, &c. Enamelled Tubing, and Glazed ditto. Russell and Howell's Homogeneous Tubes. And agents for G. F. Muntz's Solid Brass Tubes. Every variety of fittings. Trade mark, .

LOYD AND LLOYD, ALBION TUBE WORKS BIRMINGHAM. MANUFACTURERS OF PATENT LAP-WELDED IRON TUBES, FOR LOCOMOTIVE, MARINE, AND STATIONARY BOILERS. IMPROVED HOMOGENEOUS METAL TUBES. ALL DESCRIPTIONS OF TUBES AND FITTINGS FOR GAS, STEAM AND WATER, PLAIN, GALVANISED AND ENAMELLED. GUN-METAL STEAM GLAND COCKS, WATER GAUGES, &c.

FARRAR'S PATENT STEEL COMPANY, WARDSEID STEEL WORKS, SHEFFIELD. MANUFACTURERS OF BEST CAST STEEL, MALLEABLE AND MILD STEEL CASTINGS, SUPERIOR CAST-STEEL FILES, &c. CALL THE ATTENTION OF ENGINEERS and all users of FIRST-CLASS STEEL to the GREAT SUPERIORITY OF STEEL MANUFACTURED under this PATENT. Prices:—
First quality £50 per ton.
Second quality 40 "
Third quality 30 "

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SHORTTRIDGE, HOWELL, AND CO., HARTFORD STEEL WORKS, SHEFFIELD. SOLE MANUFACTURERS OF HOWELL'S PATENT HOMOGENEOUS METAL PLATES FOR BOILERS, LOCOMOTIVE FIRE BOXES, AND TUBES, COMBINING THE STRENGTH OF STEEL with the MALLEABILITY OF COPPER. RUSSELL AND HOWELL'S PATENT CAST STEEL TUBES. McCONNELL'S PATENT HOLLOW RAILWAY AXLES.—For prices and terms, apply to SHORTTRIDGE, HOWELL, AND CO., Hartford Steel Works, Sheffield; or Messrs. HARVEY and Co., 12, Haymarket, London.

CORNISH BORER STEEL.—Upwards of ONE HUNDRED AND SIXTY MINES are SUPPLIED with this STEEL, and the DEMAND for it is RAPIDLY INCREASING.—For terms, apply to R. MUSHET and Co., Forest Steel Works, near Coleford, Gloucestershire. London Agent:—Mr. W. T. HENDRY, 71, Cannon-street West, E.C.

MACKWORTH'S PATENT COAL WASHER, OR PURIFIER.—This MACHINE will EXTRACT the SHALE and ALL HEAVY IMPURITIES FROM SMALL COAL at a COST of TWOPENCE PER TON.—For particulars and references, apply to the makers, A. and T. FAY, Temple-gate Works, Bristol; or to Mr. JOS. RIDEN, Basinghall-street, Leeds.

WIRE-ROPE TESTING. **PUBLIC TEST OF A. J. HUTCHINGS AND CO.'S PATENT WIRE-ROPE AT LIVERPOOL, FEBRUARY 27, 1861.** [From the *Daily Post* of March 1, 1861.]

On Wednesday, the 27th of February, a series of EXPERIMENTS on WIRE-ROPE took place at the Corporation Testing Works, King's Dock. The specimens tested were manufactured by the well-known firm of A. J. HUTCHINGS and Co., of Millwall, London. The Contractors to the Lords of the Admiralty and various foreign Governments, the character of whose rope is so well known in this country, as well as all parts of the Continent. Capt. Ducraft, of H.M.S. *Hastings*, and a number of other gentlemen connected with shipping, were present to witness the experiments, all of which were considered highly satisfactory, and in every respect sustained the reputation of the manufacturers. The following are the results of the experiments:—

An 8 in. rope bore 70 tons WITHOUT BREAKING. Circumference and breaking strain.

Size.	Hutchings and Co.'s wire-rope for ships' rigging. Tested Feb. 27, 1861.	Newall and Co.'s Test of Oct. 29, 1860.	Garnock, Bibby, and Co.'s Test, Oct. 29, 1860.
2 1/2 in.	5 tons 15 cwt.	7 tons 15 cwt.	8 tons 16 cwt.
3 in.	11 " 14 "	16 " 10 "	18 " 5 "
3 1/2 in.	22 " 8 "	16 " 10 "	18 " 5 "
4 in.	23 " 10 "	18 " 15 "	26 " 10 "
4 1/2 in.	29 " 10 "	18 " 15 "	26 " 10 "
5 in.	37 " 16 "		

N.B.—The 2 1/2, 3, and 4 in. ropes were the actual sizes tested. The remaining sizes and strains are comparative.

THE ABOVE ROPES ARE FOR COLLIERY USE.

GARNOCK, BIBBY, AND CO., MANUFACTURERS OF HEMP AND MANILLA CORDAGE, AND IMPROVED PATENT NON-TWISTED WIRE-ROPE. CHURCH STREET, LIVERPOOL. G. B. and Co. beg to intimate that they use nothing but Bradley's long-drawn charcoal wire in the manufacture of pit and incline ropes. The quality of this article is well-known, and its superiority was fully proved at a PUBLIC TEST OF WIRE-ROPE, instituted by Messrs. R. S. Newall and Co., at Liverpool, on October 29th, 1860, on which occasion G. B. and Co.'s samples averaged 13 per cent. over their trade card, and were the strongest of all the samples from various manufacturers then tested.—See *Mining Journal*, Oct. 29, 1860.

HEMP AND WIRE-ROPES.

JOHN STEPHENS AND SON, HEMP AND WIRE-ROPE WORKS, ASHFIELD, FALMOUTH, CORNWALL. MANUFACTURERS OF FLAT AND ROUND HEMP AND WIRE-ROPES, GUIDE RODS FOR SHAFTS, GALVANISED WIRE SIGNAL LINE AND STRAND FENCING, &c., for MINES, RAILWAYS, &c. A first-class medal was awarded to JOHN STEPHENS and Son for their manufactures, by the Royal Cornwall Polytechnic Society, in 1860.

BEST CHARCOAL IRON AND STEEL WIRE ROPES, FOR COLLIERIES, MINES, &c. COPPER ROPE LIGHTNING CONDUCTORS, with fittings complete. WEIGHING MACHINES AND WEIGH BRIDGES. GALVANISED CORRUGATED IRON ROOFS, and IRON BUILDINGS. Reduced price list, with estimate and designs, forwarded on application to FRANCIS MORTON AND CO., MANUFACTORY AND HEAD OFFICES, LIVERPOOL. LONDON OFFICE.—19, PARLIAMENT STREET, WESTMINSTER.

TO COLLIERY PROPRIETORS.—PATENT TIPPING MACHINES, TO DIMINISH THE LOSS FROM BREAKAGE IN LOADING COAL ON RAILWAY WAGONS, SHIPS, &c. ARTHUR AND JAMES RIGG, PATENTEES AND MAKERS, GEORGE STREET, CHESTER.

VENTILATION OF MINES.—ELLIS LEVER INVITES THE ATTENTION OF OWNERS, VIEWERS, AND MANAGERS OF COLLIERIES to his recently IMPROVED MATERIAL FOR BRATTICING AND MAKING TRAP DOORS, in the working of coal mines. It is made in every width, and in various qualities, prices of which may be had on application.

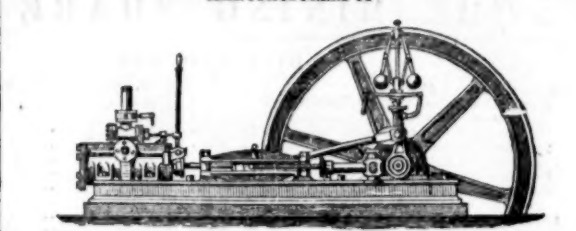
For the VENTILATION OF SHAFTS, and for CONVEYING AIR to the various UNDERGROUND WORKINGS OF MINES, ELLIS LEVER has contrived and introduced a VERY SERVICEABLE DESCRIPTION OF WATER-PROOF AND AIR-PROOF TUBES, from 1 to 6 ft. diameter, and in unlimited lengths. Further information may be had on application to the manufacturer, ELLIS LEVER, West Gorton Works, Manchester.

"THE RAILWAY AND THE MINE."—LEVER'S Illustrated Year-Book for 1861, price 2s. 6d., may be had in London of Simpkin, Marshall, and Co., and all booksellers throughout the kingdom.

PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE MEDAL WAS AWARDED TO THE MANUFACTURERS OF THE ORIGINAL SAFETY FUSE, BICKFORD, SMITH, DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate. Address:—BICKFORD, SMITH, DAVEY, and PRYOR, Tuckermill, Cornwall.

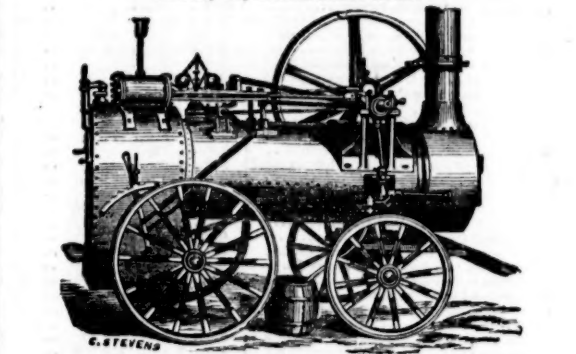
MINING AND CANNON FUSES.—ABEL'S FUSE, FOR FIRING MINES, CANNON, &c., BY MAGNETO ELECTRICITY. Orders executed by WM. LADD, 11 and 12, Beak-street, Regent-street, W., appointed sole manufacturer by permission of the Secretary of State for War.

MESSRS. E. PAGE AND CO., VICTORIA WORKS, BEDFORD, AND LAURENCE POUNTNEY PLACE, CANNON STREET, LONDON. MANUFACTURERS OF



HIGH PRESSURE STEAM ENGINES, from 2½ to 30 horse power, and upwards, adapted for MILLS, AGRICULTURAL, MINING, and GENERAL PURPOSES. The following sizes are ready for immediate delivery, and may be seen at any time at their London depot:—
ONE 5 in. cylinder, 10 in. stroke. ONE 12 in. cylinder, 36 in. stroke.
ONE 8 in. cylinder, 18 in. stroke. ONE 14 in. cylinder, 36 in. stroke.
ONE 10 in. cylinder, 18 in. stroke. ONE 17 in. cylinder, 36 in. stroke.
ONE 14 in. cylinder, 24 in. stroke. ONE 20 in. cylinder, 36 in. stroke.
Prices and full particulars sent on application.

PORTABLE STEAM ENGINE COMPANY (LIMITED) CITY OFFICE, 5, ADAM'S COURT, OLD BROAD STREET. DEPOT.—92, BLACKFRIARS ROAD.



PATENT PORTABLE STEAM ENGINE, WITH REVERSING GEAR. PORTABLE STEAM ENGINES LENT ON HIRE, from 4 to 25 horse power. Every information can be obtained on application to Mr. DUNFORD, at the City office; or to Mr. CHESWELL, the company's engineer, at the depot.

CONDIE'S PATENT STEAM HAMMERS.—FIRST-CLASS "MOVING CYLINDER" STEAM HAMMERS, from 5 cwt. to 7 tons, suitable for jolting forges, puddling forges, and the smiths' shops of engineers shipbuilders, &c. Pressure of steam required, 25 lbs. BAIN AND WYLIE (Successors to John Condie). Shields Ironworks, 330, Eglington-street, Glasgow.

TO BRASSFOUNDERS, ENGINEERS, REFINERS, &c.—THE PATENT PLUMBAGO CRUCIBLE COMPANY beg to CALL THE ATTENTION of all users and shippers of melting pots to the GREAT SUPERIORITY OF THE PATENT CRUCIBLES, which have been used during the last three years by some of the largest melters in England and abroad. In addition to their capabilities of melting an average of from 35 to 40 pourings, they are unaffected by change of temperature, never crack, but can be used till worn out, requiring only one annealing for several days' work, and become heated much more rapidly than ordinary pots, EFFECTING thereby a SAVING of more than FIFTY PER CENT. in time, labour, fuel, and waste. The Patent Plumbago Crucible Company also manufacture and import clay crucibles, muffles, portable furnaces, sublimate pans and covers, glass pots, all descriptions of fire-standing goods, and every requisite for the assayer and dentist. Also, sole proprietors of fine POWDERED PURE FLOUR PLUMBAGO, which they can confidently recommend for anti-friction purposes, being an impalpable powder, and warranted perfectly free from grit and any impurity. For ordinary polishing purposes it will be found superior to any of the black leads offered. Price, £27 10s. per ton; 30s. per cwt. Samples of 28 lbs. forwarded on receipt of 8s. Packages free.

For Lists, Testimonials, &c., apply to the BATTERSEA WORKS, London, S.W.

HALEY'S PATENT LIFTING JACK, MANUFACTURED BY THE INVENTOR, JOSEPH HALEY, ALBION STREET, GAYTHORN, MANCHESTER. SCREW JACKS, SHIP JACKS. SLIDE AND CENTRE LATHES, PLANING, SHAPING, BORING, DRILLING, SCREWING, WHEEL CUTTING, AND OTHER MACHINES. RIVET MAKING MACHINES.

AUSTRALIA AND NEW ZEALAND WHITE STAR EX-ROYAL MAIL CLIPPERS, SAILING FROM LIVERPOOL TO MELBOURNE on the 1st and 20th of every month. SAILING FROM MELBOURNE.

Ship.	Captain.	Register.	Burthen.	To sail.
EMPEROR OF THE SEAS	BRAGG	1656	5000	May 25.
EMPIRE OF PEACE	CALVERT	1540	4600	June 20.
BLUE JACKET	WHITE	1559	4750	July 20.

Owing to the tides, the May packet will sail on the 25th.

The clippers of this line are the largest, finest, and handsomest in the trade, and are well known for their famous passages, and the unwavering punctuality of their sailing engagements. Passengers must embark, without fail, on the day previous to advertised date.—For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or to GRINDLAY and CO., 55, Parliament-street; or to SEYMOUR, PEACOCK, and CO., 116, Fenchurch-street, London. Willcox's Australian and New Zealand hand-books sent for two stamps.

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Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
3,200.00	1.00	2.00	0.10	0.10	0.10

PROGRESSIVE MINES.				
Shares.	Mines.	Paid.	Last Pr. Bus. done.	Last Call.
4825	Abbey Consols (ld.) Cardigan.	3 7 0.	1 ..	..Nov. 1880
1000	Allt-y-Crib (lead) ..	1 5 0.	2 ..	..
6000	Allt-y-Mann (lead) [L. £1.]	0 5 0.	12s. ..	..July, 1859
10000	Angharrack (copper), Ffiliack.	1 1 6.	1 1/4.	..June, 1859
8000	Ashburton (tin), St. Austell.	11 10 0.	14 1/2.	..So cal. 1860
1000	Ashburton United (cop., tin)	11 10 0.	14 1/2.	..Mar. 1859
10000	Bampfylde (copper), Devon.	15 0 0.	4 ..	..Aug. 1860
4000	Bedford Consols (copper) ..	1 18 6.	6s. 4s. 6s.	..April, 1861
4000	Beneathwood (lead), Linkin.	1 14 6.	12s. ..	..Nov. 1880
2000	Berehaven (copper), Ireland.	1 0 0.	1 1/4.	..
7500	Bickleigh Vale Phoenix [L.]	3 0 0.	2 1/4.	..Fully paid.
200	Bilins (lead) [L. £30.]	20 0 0.	22 .. 20 22	..Feb. 1859
1248	Boscawell (tin), Penzance.	6 15 0.	4 ..	..Dec. 1850
3200	Boscawell (tin), St. Austell.	6 15 0.	4 ..	..Sept. 1860
160	Boscoren & Bollowall, St. Just	5 0 0.	10 ..	..Dec. 1860
123	Bosweddan and Wheal Castle	83 0 0.	11 ..	..Nov. 1858
5000	Bosworthan (tin), Sauced.	1 0 0.	1 1/4.	..June, 1860
5000	Bottle Hill (tin), Plympton.	1 0 0.	1 1/4.	..
12000	Brea Con. (tin), St. Ives [L. 30s.]	1 0 0.	1 1/4.	..Jan. 1861
4000	Brookwood (lead), Cornwall.	1 5 0.	3 ..	..Mar. 1861
1200	Brynmelin [L. £600 & £600 & 25pd.]	..	..	..April, 1861
500	Bryn Gwilog (lead), Flint.	4 0 0.	4 1/2.	..Oct. 1859
2000	Buntal, Llanidloes, Cardigan.	0 15 0.	4 1/2.	..Mar. 1861
8000	Budnick Consols (tin), Fernan	0 15 0.	2 1/2.	..Mar. 1861
4380	Buller and Bassett Unit. (cop.)	3 2 6.	2 1/2.	..Mar. 1861
1200	Buller and Bertha (copper).	5 10 0.	2 1/2.	..Feb. 1861
2448	Bwlch (all-ld.), Cardiganshire	4 9 0.	1 1/4.	..Nov. 1860
4096	Calcraft Consols (copper)	5 10 0.	1 1/4.	..Dec. 1860
915	Calvadden, Wendron	18 5 0.	4 1/2.	..Mar. 1861
1000	Carnborne Consols (copper).	16 0 0.	8 ..	..Aug. 1860
4000	Carnborne Vein & Wh. Francis	6 17 4.	2 1/2.	..Mar. 1861
1000	Caradoc Consols (tin), Clever	2 10 0.	9 10	..April, 1861
1000	Cardigan Consols [L. £10.]	0 10 0.	17s. ..	..Feb. 1860
916	Carroll (all-lead), Newlyn	15 5 7.	17 15	..Sept. 1860
4370	Carnewas (ld., cop.), Mawgan	0 18 0.	1 .. 3/4	..May, 1860
3000	Carn Vivian (tin, cop., lead)	2 19 6.	2 1/2.	..April, 1861
7000	Carrack Dewa	2 16 0.	1 .. 1	..April, 1861
1056	Carvannall (cop.), Gwennap	21 11 7.	3 ..	..Dec. 1860
10000	Carway and Duffryn [L.]	8 0 0.	5 ..	..Fully paid
3000	Carycroft (cop., ld.) [L. £2 1/2]	0 10 0.	5 .. 3/4	..Mar. 1859
25000	Cassara (tin), Llanidloes	0 10 0.	17s. ..	..Dec. 1860
10000	Castleward, Ireland [L. £1.]	0 10 0.	17s. ..	..
2500	Cash Cilen (lead), Flintshire	1 5 0.	1 ..	..Sept. 1860
2000	Clara (all-lead) [L. £4.]	3 17 6.	2 1/2.	..Oct. 1860
984	Clijah & Wentworth (tin, cop.)	27 0 0.	2 .. 1 1/2	..Jan. 1861
6000	Clinton and Edgecombe United	1 0 0.	1 1/4.	..Oct. 1860
3155	Cock Mawr Pool (lead) [L.]	4 3 0.	4 ..	..July, 1860
2450	Cook's Kitchen (cop.), Illogan	17 0 0.	20 .. 18 20	..May, 1860
5000	Cornubia (tin), Roche	0 10 0.	1 ..	..Feb. 1859
10000	Craigton (ld.), Llanidloes	0 10 0.	17s. ..	..June, 1860
905	Craze (copper), Camrose	6 10 0.	6 ..	..Feb. 1860
30000	Craze Moor (ld.), Yorkshire	0 10 0.	4s. 5s.	..No call.
12000	Craven (cop.), Tavistock	..	3 1/2.	..No call.
8000	Crookhaven (cop.) [L. £2 1/2]	0 17 0.	9s. ..	..Mar. 1861
2000	Crowlwin (lead), Llanidloes	1 10 0.	1 .. 3/4	..No call.
6000	Crownadale (cop.), Tavistock	0 11 0.	3 ..	..Nov. 1880
6000	Cuddin (cop., tin), St. Austell	0 10 0.	1 1/2.	..Feb. 1861
4000	Cumberland Black-Lead [L.]	5 0 0.	5 ..	..Fully paid
2000	Cwm Afon (tin), St. Austell	0 10 0.	17s. ..	..Feb. 1860
31000	Dale, North St. Ives, Llanidloes	0 10 0.	13s. ..	..Fully paid
4817	Devon and Courtney (cop.)	1 9 0.	11s. ..	..Mar. 1861
1000	Devon Great Wheal Ellen	2 0 0.	..	..Mar. 1861
12000	Dev. New Copper Co. [L. £2]	..	2 ..	..
12000	Devon Union (copper) [L. £1]	0 10 0.	3/4.	..Dec. 1860
4568	Devon Wheal Buller (copper)	3 6 6.	3/4.	..Feb. 1861
1000	Durio (tin), Telant	6 12 0.	6 .. 5 6	..Mar. 1861
2000	Dolcoath United [L. £8]	1 0 0.	2 1/2.	..June, 1860
4000	Dolcoath (tin), St. Austell [L. £1]	12 6 6.	3 ..	..April, 1861
3000	Dyffrynwaile (lead), Wales	12 1 0.	1 1/2.	..Sept. 1860
24	Eaglebrook (lead), Cardigan	74 0 0.	15 ..	..Mar. 1858
4006	East Alfred Consols (copper).	3 9 1/2.	1 1/4.	..Feb. 1861
6000	East Budnick and Mount	0 10 0.	11s. .. 8s. 10s.	..Jan. 1861
6000	East Carn Brea (cop.) Redruth	3 1 0.	8 1/4.	..April, 1861
6400	East Crinnis and South Par.	2 1 6.	2 ..	..Jan. 1861
6000	East Devon Gt. Consols (cop.)	0 9 6.	3 1/2.	..Feb. 1861
6000	E. Grenville (cop.), Camborne	0 14 6.	3 .. 55s.	..April, 1861
6000	E. Gunnle (tin), Redruth (cop.)	9 9 6.	3 1/4.	..Mar. 1861
4096	E. Providence (tin), Uxbridge	1 10 0.	1 1/2.	..Mar. 1861
6000	E. Roseath (tin, cop.), Wendron	2 1 0.	1 ..	..Aug. 1860
6000	E. Releash (war, cop., tin), Gwinn.	2 10 0.	1 1/4.	..May, 1861
258	East Teolus (copper), Redruth	56 0 0.	40 ..	..Feb. 1861
1000	E. Trefusis (cop.), Gwennap	6 18 10.	3 1/2.	..Dec. 1860

6000	E. Wh. Ellen (sil.-id.), St. Ive	0	1	0.	—				Nov., 1887
6001	W. H. Russell, Tavlis [S.E.]	7	4	0.	6½.	6½	6½		Nov. 1887
5700	Xmouth (sil.-id.), Christow.	5	8	0.	8	—	—		Mar. 1887
5900	Grey and E. Unl. St. Blassy	0	10	0.	1½.	—	—		Nov. 1886
5000	Furdon (cp., Okla.)	3	2	0.	2½.	—	—		Feb. 1886
6000	Purse Hill Wood Cons., Buckl.	0	4	0.	14.	—	—		April, 1886
114	Garden (tin), Morvah	16	0	0.	18	—	—		Mar. 1886
1000	Garreg (lead), Flint	4	5	6.	¼.	—	—		Mar. 1886
4000	Gawton (copper), Tavistock.	1	10	0.	¾.	¾	—		Feb. 1886
6000	Gernick (copper), Crowth	0	9	0.	¾.	—	—		Feb. 1886
4892	Goginan (silv.-ld.), Cronan	2	10	0.	2½.	—	—		July, 1886
4000	Hammam (copper), St. Cleer.	2	10	0.	¼.	2½	2½		Mar. 1886
2000	Goonzoin, St. Xeo.	2	4	0.	2½.	—	—		Apr. 1886
5000	Great Brigan	2	10	0.	2½.	—	—		Mar. 1886
4098	Great Caradon (cop.), St. Ives.	1	6	0.	¾.	¾	—		Feb. 1886
6000	Gr. Crinnis (cp.), St. Austell	2	0	0.	1¼.	1¼	—		Feb. 1886
10000	Great Moelwyn Slate [L. & S]	1	10	0.	—	—	—		Mar. 1886
4000	Gr. No. Toigus (cp.), Redruth	2	5	0.	2	—	—		Jan. 1886
10104	Great Onslow Cons., Camelfr.	3	10	9.	¾.	—	—		Dec. 1886
6000	Gr. Relatins (copper), Looe	0	10	0.	26.	24s.	26s.		June, 1886
4000	Gr. Tregune Consols, Altarnun	0	10	0.	—	—	—		Dec. 1886
10000	Great Trevelde (copper)	0	13	0.	1	—	—		Mar. 1886
6000	Gr. Tywardreath (cp.), [L. & S]	3	0	0.	3	—	—		Jan. 1886
5120	Great Wheel Alfred [S.E.]	13	18	2.	¾.	¾	¾		April, 1886
3730	Great Wheal Badden (tin).	4	11	0.	1½.	—	—		Mar. 1886
5000	Gr. W. Busy (cop., tin), Ken.	13	0	0.	4½.	—	—		Mar. 1886
10000	Gunn's W. B. Martha (cp.), [L.]	1	0	0.	18.	—	¾		Fully paid
10240	Gunn's Lead (copper).	0	0	0.	8.	—	—		Mar. 1886
5000	Gurylin (cop., tin), St. Erwh	0	8	0.	8.	—	—		Feb. 1886
8634	Gwyrty Park Cons., Llanwarth	0	14	9.	9.	—	—		Jan. 1886
6400	Harwood (id.), Durham [L. & I]	0	3	0.	¾.	—	—		April, 1886
7219	Hawkmoor (tin cop.) Caioctek	2	17	6.	1	—	—		Mar. 1886
5000	Holmbush (id., cp.) Callington	5	2	0.	2½.	2½	2½		Sept. 1886
6000	Huckworthy Bridge (copper).	0	16	6.	—	—	—		Mar. 1886
5000	Imperial Silver-Lead, Dolgelly	25	0	0.	—	—	—		Mar. 1886
9000	Kewick (lead), Looe	1	18	0.	1	—	—		Feb. 1886
6000	Lady Bertha (cop.) [S.E.]	1	10	6.	1½.	2½.	3ls.		April, 1886
3000	Lead Eliza (id.), Carm. [L. & S]	2	6	0.	¾.	—	—		Nov. 1886
1019	Leeds & St. Aubyn (tin cop.)	15	12	3.	4	—	—		Mar. 1886
863	Lelant Cons. (tin), Uly Lelant	39	10	0.	2½.	—	—		Mar. 1886
1000	Llanmair (silver-lead) [L.]	5	0	0.	5	—	—		Fully paid
1000	Lyngwern United, Card. [L.]	1	16	0.	1½.	—	—		July, 1886
2000	Maver Park Devon Cons., Ex.	1	10	0.	—	—	—		Feb. 1886
4968	Maudlin Mines [S.E.]	2	4	0.	2½.	—	—		Mar. 1886

4540	Merrilyn (lead), Flint	9	6.		148.	-	138.	155.	Jan.	1987
22000	Merryfield (lead) [L.]	0	12	0.					May,	1986
5000	Mitchell (lead), Flint.....				1½	S.	108.		Aug.	1985
16000	Mull Pool (tin,cop.) St.Hillary	15	0	6.	1				Mar.	1985
16000	Mool (lead) [S.]	0	7	0.	¾				Jan.	1985
6599	Noland (cop.), S. Monmouth	2	6		28.				Feb.	1985
5000	Noane Valley	0	5	0.					Aug.	1986
1024	Nangiles (tin,cop.), Kea....	3	0	0.	6				Jan.	1986
5000	Nantoes and Penrhif [L.&E]	3	0	0.	2¼				Sept.	1986
2400	Nanty-y-Iago (ld.), Merioneth	3	0	0.	2½				Mar.	1986
250	Nanty Mines (id.), Montgomery	20	0	0.	-				Fully paid	
6400	Neath Heath (lead), Duffryn..	0	15	6.					April,	1986
5000	New Birch Tor & Vidler Cons.	1	6.		2½-2¼	2½			July,	1986
6000	" " Crown Hill (lead), St.Stephen	1	18	6.	1¼				Febr.	1986
6000	N.E.Bertha Cop.,Taris... ..	0	18	0.					Dec.	1986
6000	N.W.Trelawny Crtg.,Trevelick					old 93%				

9000	New Wheal Clifford (copper).	0	6	0	..	12	..	Mar.	186
6144	New Wheal Francis, Crowan.	0	13	6	..	11s.	..10s. 11s.	..Feb.	186
1024	New Wheal Hender, Crowan.	2	5	0	..	3	..	..Mar.	186
400	New Wh. Seton (cop.), Camb.	12	0	0	..	50	.. 50 55	..Nov.	186
2300	New Wh. Svor & E. Wh. Metal	8	10	0	..	—	..	..April,	186
2500	N. Wh. Vaddon (cop.), Marazion	0	13	0	..	14	..	..Dec.	186

90	N. Budnick (tin, ad.) Ferrans.	1	10	0.	0.	7	...	...	Jan. 1881
4500	No. Budnick and West Mount	0	5	0.	0.	40	...	...	No call.
1024	North Buller (cop.), Grednath.	20	2	6.	3	3 1/2	4	...	Feb. 1881
6000	Nor. Clifford (cop.), Grednath.	0	5	0.	0.	50	...	...	Nov. 1881
20000	North Devon (all.-id.), [L. £1]	0	5	0.	0.	80	...	...	No call.
6000	North Downs (cop.), Rodruith	2	3	4.	4	4 1/2	...	...	Aug. 1881
5792	No. Downs and Wh. Rose Uni.	1	18	0.	0.	190	...	...	April, 1881
2000	North Frances, (cop.) [S. E.]	12	15	0.	5	4	5	...	Feb. 1881
8000	N. Hallenbeagle (tin, cop.) [L.]	0	7	6.	0.	2 1/2	...	...	April, 1881
2000	North Jane (tin, silver, lead)	2	10	0.	0.	2 1/2	...	...	Mar. 1881
6000	N. Lacey (id.) of L. of Man [3600 £2, 2400 £1]	4	1	0.	0.	1 1/2	...	...	Aug. 1881
3000	N. Levant (tin, cop.), St. Just	5	13	6.	0.	4	...	...	Aug. 1881
10000	North Miners (lead) [L.]	0	4	0.	0.	3 1/2	...	...	Aug. 1881
5000	N. Nant-y-Mwyn (id.) [L. 10s.]	0	5	0.	0.	3 1/2	...	...	April, 1881
4096	North Rosewarne, Gwinaur.	0	4	0.	0.	50	...	...	Jan. 1881
5000	N. Treleher (all., cop.), Fadstow	0	4	0.	0.	50	...	...	Dec. 1881
848	N. Treakerby (cop.), St. Agnes	10	3	0.	0.	23	25	...	Dec. 1881
6000	N. Wh. Bassett (cop., tin) [S. E.]	1	11	0.	0.	5 1/2	...	...	April, 1881
1024	North Wheel Busy (cop., &c.)	8	10	5.	4	...	...	...	April, 1881

* * Those mines with [S. E.] appended have been admitted on the Stock List.

* * Our object being to make the Share List correct, we earnestly call upon which may, from time to time, come under their notice. To share information. Reports from mines—in fact, mining intelligence of every kind.

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*. Those mines with [S. E.] appended have been admitted on the Stock Exchange. Those mines with [L.] appended have been incorporated with Limited Liability.

* Our object being to make the Share List correct, we earnestly call upon all who have the power, to aid us, by forwarding any alterations or correction which may, from time to time, come under their notice. To shareholders, as well as those officially connected with the mines, we appeal for information. Reports from mines—in fact, mining intelligence of every description, forwarded to our office, will meet ready attention.

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